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U.S. Scanner News

A Magazine for the Scanner Hobbyist

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Profile – Alcohol, Tobacco, and Firearms
Maximizing Signal-To-Noise Ratio
The Future of Space Communications
Reviews:
PerCon Spectrum Database
Uniden BC-9000XLT
Bill Cheeks "Cheek 3" Mod. Book

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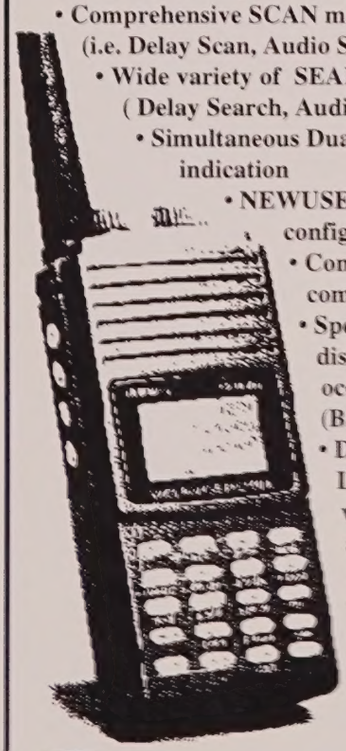

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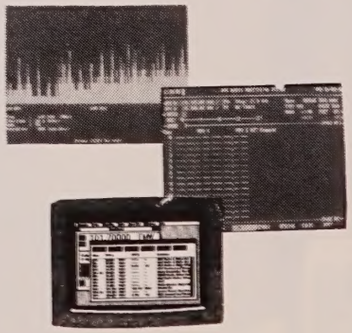

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Editorial Staff

Owner/Publisher
Ken Gilbert

Managing Editor
Bob Gehri

Editorial Staff

Antennas	Clem Small
Aircraft	Roger West
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Satellites	Donald Dickerson
Technical Topics	Steve Donnell
Text Editor	tracy
Layout	Bob Gehri
Logistics	Paul Weigel

U.S. Scanner Publications

Editorial Offices
P.O. Box 14923
Portland, Oregon 97214
1-503-230-6999
BBS 1-360-695-0678
FAX 1-503-233-5176
Subscription Services
1-503-234-1945
InterNet - USSN@Pacifier.com

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Fire fighters doing their darnedest to control a fire that is out of control. These men and women may set around the firehouse alote, but when that bell rings they earn the right to do so. A sincere thanks to every one of you.

Photo by Gordon T. Allen

GOVERNMENT

by Roger Cravens

Bureau of Alcohol, Tobacco, and Firearms

PREFACE

This article, in it's entirety, has been planned over a three-year period. Once the opportunity presented itself, I called Mr. J. R. McCollum, Public Affairs Officer for the Bureau here in Atlanta. Although his primary position and responsibility is with Compliance Operations, he has been with BATF much of his working career. This article is probably the most extensive (and intentionally non-controversial) examination of the Bureau of Alcohol, Tobacco, and Firearms any magazine has published to date. And this is most certainly true in terms for a radio-related magazine, in the coverage of frequencies and governmental interrelationships. I attempted to spare no expense in terms of time and effort to develop "best source" information. I allowed ATF to read the final draft prior to its being submitted to USSN. Out of courtesy, I asked ATF to review this entire article for accuracy of reported information ONLY, not for content. I take sole responsibility for content.

I have personally worked almost 20 years for the federal government and thought I had a good basic understanding of what the various branches of government were responsible for. That was until I decided to finally put on paper the ATF's story.

Because of what I discovered about the ATF during the interview process, this is without a doubt the most time-consuming article I have ever written about a U.S. Government agency. During the information development and interviewing process, I was constantly amazed at the wide variety of responsibility and extremely difficult tasks this agency is responsible for providing. Plus the multitude of interrelationships between other Government agencies. I want to extend a special and sincere thanks to Mr. J. R. McCollum, Public Information Officer for Atlanta's office of the Bureau of Alcohol, Tobacco, and Firearms, whose invaluable assistance made this article possible.

If you are looking for current, "fly-on-the-wall" controversy and Government-bashing or speculations, you won't find it in this article. Throwing rocks at this agency or its employees for what they have done or failed to do is not the intent of this article, and is not within the scope of U.S. Scanner News. The employees of ATF are American citizens. Within its ranks are conservatives, liberals, libertarians, and a wide variety of political beliefs in between. There are those in the Bureau who no doubt feel overzealous about defending the Constitution's Second Amendment; those who feel that Amendment should be totally repealed and others who feel it should be modified and kept. These brave men and women of ATF are American citizens. "They" are Us. They come from every segment of our society, and in every size, sex and color. They have families, pay taxes, and carry with them the same feelings, thoughts, fears and prejudices our society has produced throughout its history. After you've listened to the news, please keep in mind that "They" are indeed "Us."

THEIR HISTORY

You cannot understand BATF's current roles and missions until an understanding of the Agency's past is appreciated. In reality, BATF is not exactly a new agency. Its history originates in 1934, to support the National Firearms Act, which required registration of weapons such as machine guns, short-barrel shotguns and silencers. (This law was later incorporated into the Gun Control Act of 1968).

In 1935, Congress decided to regulate ethyl (drinking) alcohol and so originated the Federal Alcohol Administration Act, which regulated production, importation, and marketing of ethyl alcohol and beverages.

Twenty years later, in 1954, Internal Revenue Code sections concerning federal tax policy for alcohol, tobacco, and destructive (explosive) devices were amended to provide for taxation and control of these items.

During the violence of the 1960's, Congress passed the Gun Control act, which is the primary federal law regulating firearms.

The main explosives law came two years later (1970), with the Federal Explosives Law, Title XI, of the Organized Crime Control Act. It regulates production, storage, and sale of explosives.

There is more to their regulatory history, as mandated by Congress, but the laws mentioned are the basis for BATF's current missions.

BATF can actually trace its roots to 1791, when the new government of the United States imposed the first federal tax on distilled spirits to pay off Revolutionary War debts. The tax was alternately enacted and repealed to meet revenue

needs up to the Civil War.

A law in 1862 created the Office of Internal Revenue and levied a distilled spirits excise tax that became a permanent part of the federal revenue system. Another law in 1863 authorized three detectives to deter alcohol tax evaders. These laws are the trunk of a family tree that branched out to include the Internal Revenue Service and ATF.

The 18th amendment to the Constitution ushered in the prohibition era in 1919. Generally, prohibition banned production of alcohol for use as a beverage. The Internal Revenue Commissioner enforced federal prohibition laws. Prohibition agents who pursued alcohol tax evaders earned the nickname "Revenuers."

The "Roaring Twenties" spawned gangs that supplied "moonshine" alcohol and operated other criminal enterprises. Special squads in the Bureau of Prohibition targeted racketeers like Al Capone and Waxie Gordon. One of the best known squads was headed by Eliot Ness in Chicago. Today's ATF agents are successors to those "Untouchables."

The Bureau of Prohibition moved to the Justice Department from 1930 until 1934, when its responsibilities returned to the new Alcohol Tax Unit in the Bureau of Internal Revenue. Prohibition ended in 1933 with passage of the 21st Amendment. Production of legal alcoholic beverages resumed.

The Federal Alcohol Administration Act of 1935 mandated a competitive marketplace for alcoholic beverages. In 1940 the Federal Alcohol Administration merged with the Alcohol Tax Unit.

The National Firearms Act of 1934 regulated machine guns and other "gangster" weapons. In 1938, the Federal Firearms Act established limited regulation of the firearms industry and made it a crime for felons and fugitives to receive firearms in interstate commerce. Responsibility for enforcing these laws went to the Alcohol Tax Unit in 1942. Tobacco tax duties were delegated to the Alcohol Tax Unit in 1951. The next year the unit's title changed to the Alcohol and Tobacco Tax Division of the Internal Revenue Service.

Crime and violence, including the assassination of President Kennedy, caused the nation to focus on firearms in the 1960's. One result was enactment of the Gun Control Act of 1968, mentioned earlier. The law increased regulation of the firearms industry, added criminal offenses involving firearms and provided for investigation of some explosives crimes. The Alcohol, Tobacco and Firearms Division, which replaced the Alcohol and Tobacco Tax Division, was selected to enforce the law.

In 1970, the Organized Crime Control Act strengthened regulation of explosives and fixed criminal penalties for some bombing and arson crimes. This mission was assigned to the Alcohol, Tobacco and Firearms Division.

The work of the Alcohol, Tobacco and Firearms Division now encompassed law enforcement, industry regulatory and revenue protection. The Treasury Department decided these comprehensive duties would be performed most effectively by an independent bureau. The ATF Division left the Internal Revenue Service on July 1, 1972 and its responsibilities were assumed by the Bureau of Alcohol, Tobacco and Firearms.

Actual line authority (chain of command) to any position within the Bureau can be directly traced from the Secretary of the Treasury through the Director, ATF to two Deputy Directors. There is an Assistant Director for Administration, Assistant Director for Internal Affairs, Assistant Director for Congressional and Media Affairs, Assistant Director for Equal Opportunity/Chief Counsel, and Associate Directors for Law Enforcement and Compliance Operations.

Overall Mission Summary

The Division of Compliance Operations and Law Enforcement are the two main Divisions of BATF, of which the Division of Compliance Operations will be the first division in our trip through the inner-workings of this important agency. Within these divisions, there are a multitude of branches which will be fully discussed here.

Alcohol Tax Revenue

Federal revenues from alcohol excise taxes reached a new high of more than $7.8 billion in fiscal 1992. This included $3.9 from distilled spirits, $3.3 from beer, and $0.6 from wine. Compliance Operations audits returns and conducts field inspections to ensure that taxes are paid in full. ATF estimates that potential tax liability on inventories held by manufacturers and bonded permittees exceeds $27 billion.

An annual special occupational tax (SOT) applies to anyone dealing with alcohol, from producers to the retail level. SOT collections for fiscal 1992 amounted to some $117 million and was collected from more than 400,000 taxpayers. Over $246 million was refunded through drawback claims for alcohol taxes, with the majority paid to manufacturers of nonbeverage products such as soft drink concentrates and medicinal preparations.

Labeling and Advertising

ATF's alcohol responsibilities include regulating the labeling and advertising of alcoholic beverages and enforcement of trade practices rules. Fraudulently labeled, misrepresented, and adulterated or contaminated products require swift and sure enforcement measures. Issues like the effects of alcohol on health, the marketing of high alcohol wines, and strength claims on labels are legitimate social concerns that energize public opinion and must be handled with sensitivity. In the international arena, ATF's expertise is utilized by the United States Trade Representative in negotiations with the European Community and others on alcohol-related trade issues.

A Certificate of Label Approval (COLA) is required before any alcoholic beverage product can be distributed in U.S. commerce. To be approved, labels must meet standards established under the Internal Revenue Code and the Federal Alcohol Administration Act (FAA Act), including the mandatory Health Warning Statement. In fiscal 1992, Compliance Operations processed 65,898 COLA applications. There

are 1.3 million approved labels currently on file. Action is taken against products which are fraudulently labeled or distributed without a valid COLA.

Product Integrity

ATF aggressively investigates known instances of contaminated beverage alcohol products. Random sampling and analysis of products, combined with cooperation and communication in the international community, help keep contaminated products from reaching the consumer.

Permittees

A Federal permit is required to function in the alcohol industry at the wholesale level or above. The permit system is a strong line of defense against tax fraud, the entry of criminal elements into the industry and serious violations of the FAA Act. Compliance Operations reviews applications for permits, any required bonds and additional information required to be submitted or developed in order to determine if a permit should be issued. Aside from criminal history which would be disqualifying under the law, ATF is alert to the possibility of hidden ownership. Many alcoholic beverage wholesalers deal in high volume cash transactions and are targets for money launderers.

ATF identifies and investigates commercial bribery and other illegal trade practices in the alcoholic beverage industry. In this type of FAA Act violation, an industry member pays money or makes a gift to induce a trade buyer to push his products. The history of the alcoholic beverage industry substantiates the need for government regulations to promote fair trade in the marketplace.

Firearms

Every manufacturer, importer and dealer in firearms must obtain a federal license from ATF and comply with recordkeeping requirements. Compliance Operations seeks to reduce violent crime by ensuring that the application and licensing requirements of the Gun Control Act of 1968 are strictly followed. ATF also collects firearms related taxes and fees.

Stopping the flow of firearms to individuals with multiple felony convictions, narcotics traffickers, and violent criminals is accomplished by targeting compliance inspections to areas with a high incidence of violent crime. Inspectors also target dealers identified through the National Tracing Center as sources of firearms recovered in high crime areas.

Licensees

Each license application is evaluated at the Firearms Licensing Center. Field inspections are conducted when circumstances warrant, such as location in a high crime area, or where it is suspected that the applicant may not engage in a bona fide firearms business. Firearms licensees totaled 284,117 in fiscal 1992. During the fiscal year, Compliance Operations received 37,085 new applications for firearms licenses.

Inspections

The integrity of the firearms tracing system is enhanced by a vigorous random inspection program designed to ensure industry compliance with requirements for recording weapons transactions. In fiscal 1992, 16,328 compliance inspections and 3,582 application inspections were conducted.

Imports

Licensed importers must obtain a permit to bring firearms into the United States. Importers then report to ATF the actual number and type of firearms brought in under the permit. ATF works with the U.S. Customs Service to ensure that each weapon imported bears required markings that permit tracing. Firearms imports in fiscal 1991 totaled 720,657.

Fees

Compliance Operations collected firearms licensing fees and transfer taxes, and excise taxes on firearms and ammunition amounting to $143 million in fiscal 1992.

National Firearms Act weapons

A national registry of weapons covered by the National Firearms Act (NFA) is maintained for machine guns, sawed-off shotguns, silencers, and destructive devices. A transfer tax of $200 per weapon and a Special Occupational Tax of $5500 per dealer are collected. The number of NFA weapons registered as of 12/92 was 538,875.

Assistance

State and local law enforcement agencies are assisted through referrals of applicants or licensees who may not be in compliance with state laws or local ordinances, such as zoning ordinances or state licensing laws. Compliance Operations also provides lists of licensees to local and state agencies to aid in their enforcement efforts.

A variety of activities designed to educate the licensee promote compliance with federal firearms regulations. These range from individual assistance during inspections to group seminars. State and local law enforcement agencies often participate in the seminars. In fiscal 1992, 113 seminars were held.

Explosives

ATF is responsible for deterring the criminal misuse or unsafe handling of explosives through enforcement of Title XI of the Organized Crime Control Act of 1970. Importers, dealers, manufactures and interstate users of explosives obtain licenses and permits from ATF to comply with storage and recordkeeping requirements.

Inspections

Regular on-site inspection of explosives manufacturing plants and storage facilities aids in ensuring that explosives materials are stored in approved, safe magazines secure from theft and at prescribed distances from inhabited buildings. Inspections also determine whether the permittee keeps accurate and timely records of transactions in explosives materials. This allows for tracing and recognition of inventory shortages that may be due to theft or diversion to criminals. In fiscal 1992, 4,356 inspections were conducted. Safety around fireworks manufacturing operations and "safe and sane" Fourth of July celebrations are aided by compliance inspection efforts prior to the

national holiday. Permit applications are evaluated to determine that the applicant is not proscribed by law. For example, a convicted felon does not qualify to hold a permit. Qualification inspections are conducted to see that the applicant has suitable premises for conducting business and secure storage.

Assistance

Compliance Operations provides professionally trained auditors to ATF Law Enforcement for financial investigations in cases of suspected arson. ATF auditors also help instruct state and local investigators and fire marshals.

Assistance is routinely provided to other law enforcement agencies. Compliance Operations has worked with the Mining Safety and Health Administration, Department of Transportation, and state and local fire marshals in exchanging information, training, and investigative leads.

Tobacco

ATF collection of tobacco taxes dates back to the Internal Revenue Act of July 20, 1868. Tobacco taxes may be less productive in coming years as consumption declines and restrictions are placed on smokers in the workplace and public areas. Persons who engage in the manufacture of cigars, cigarettes, chewing tobacco, snuff, or pipe tobacco, or who operate tobacco export warehouses, must first obtain permits from ATF.

Compliance inspections are conducted to ensure full and timely payment of tax. Electronic funds transfer is used to collect the majority of tobacco revenues. Domestic tobacco revenues in FY 1992 were $5.1 billion.

In qualifying for a permit, applicants must file a bond for tax liability, documents relating to ownership and control of the company, a factory diagram, and environmental forms. Manufacturers also pay a special occupational tax. Inspections are conducted to ensure that these qualifications are met, and that the applicant is likely to be a reliable taxpayer.

Assistance is rendered to state tax agencies through information referrals on cigarette smuggling, where tobacco products are brought into a state through illegal channels without state tax payment. ATF also works with the U.S. Customs Service on cases involving exported tobacco products brought back into the U.S. and sold without paying federal tax.

ATF does not have jurisdiction over tobacco-related consumer issues. Advertising claims, health warning labels and product quality concerns are regulated by the Federal Trade Commission. Health programs are administered by the Office of Smoking and Health in the Public Health Service.

It is interesting to note that, at least here in the Southeast, the agents of the Division of Compliance Operations do not carry firearms or radios. They do, however, use cellphones in their cars and are reimbursed by the Government for their use. Beepers are also heavily used, but belong to the individual agents. Their use is reimbursed by the government as well. The reasoning behind agents not carrying firearms is that they are regulatory in nature and are dealing with the "good guys." There simply is no necessity to carry firearms when you're "regulators" instead of law enforcement (who, on the other hand, are dealing with the "bad guys," who shoot back!).

The Division of Law Enforcement

These are the agents whose responsibility includes the illegal trafficking in firearms and the use of firearms by violent offenders, career criminals, drug traffickers (which includes joint operations with the Drug Enforcement Agency as well as the Bureau of Customs), and gang members across the country.

As evidenced in the Oklahoma City bombing, they investigate criminal bombings, arson-for-profit schemes in coordination with local and state officials, and other suspected or actual violations of federal explosives laws.

In order to best accomplish this, they continue to educate and interface with local, state, and other federal law enforcement agencies to assist in reducing crime. To the maximum extent possible under the law, this Branch charges and arrests violent armed offenders and gang members, recidivist career criminals and drug traffickers, to achieve imprisonment for as long as legally possible.

BRANCHES AND OFFICES

Office of Administration

This is the principal office that supports planning and administering Bureau support programs, including laboratory and scientific services. Administrative responsibilities include budgeting and financial management, personal administration, procurement, training, and management analysis.

On the surface, it would seem a boringly routine place to work. But there is actually high technology sorcery hidden behind the label of Administration. This is the office that runs the Laboratory Services Headquarters in Rockville, MD. These facilities include the Alcohol and Tobacco Laboratory and the Forensic Science Laboratory. These are with doubt, the most modern laboratories in the world for their missions. The FBI even sends samples to be analyzed by these laboratories, including those from law enforcement agencies from around the world. Field laboratories are located in Atlanta and San Francisco. These labs provide a range of services which includes chemical analysis of alcohol and tobacco products, to protect consumers and revenue. The laboratories make forensic examinations of evidence in support of ATF criminal investigations. The keep the largest computer database in the world on guns, ammunition, and especially ballistics. Their overall capabilities in laboratory analysis are absolutely state of the art where no other agency or country comes close in this area.

(Continued next month, with extensive frequency information on ATF and other agencies.)

USSN

ANTENNAS FOR TODAY'S SCANNERS

by W. Clem Small, KR6A, CET

Maximizing Signal-To-Noise Ratio

AND AN EASY-TO-MAKE UHF ANTENNA

Strong, clear signals with no interfering noise lead to satisfying scanning. Thanks to the use of noise-resistant FM in most of our scanning, and the fact that there is relatively little electrical noise on the VHF-UHF scanning bands, received noise is usually not a big problem for scanners. But when we try to receive the weaker signals we want to hear, those signals almost beyond the capabilities of our receiving system, then noise does become a factor to consider. As a matter of fact, if it weren't for electrical noise, those weak signals could just be amplified on up a bit and we could copy them OK. But noise is present, even in VHF-UHF reception, and so when we want to hear those weaker signals we must deal with noise.

Received Noise

Electrical noise that causes radio interference exists as radio signals and is received on a radio receiver in the same way that we receive a signal radiated from a radio transmitter's antenna. Some noise comes from lightning and is generated at high power levels. Because they are radio signals, these noise signals may travel around the world causing radio interference everywhere they go. Some other weaker generators of electrical interference signals are industrial machinery motors, neon signs, leaky powerlines and various kinds of electronic appliances. There is even radio noise which comes from outside our solar system; it is sometimes called "cosmic noise."

Noise signals exist at various frequencies just as other radio signals do and some noise is likely to be at the frequency of the signal to which you want to listen. When the received noise level is strong in relation to the signal that we want to receive then we may not be able to copy (understand) the content of the signal we want. In those instances in which signals are weak, or noise is extra strong, it is helpful to understand what is meant by the term "signal to noise ratio (S/N)," and how to maximize that ratio for better reception. So now we will consider a few ideas that are helpful in using the S/N concept in weak signal work.

The Signal:

First let's discuss what we mean by "signal"; that's the transmission which we are trying to copy and it may be strong, average or weak. If the signal is average or strong then there is usually no problem copying it. Generally it is only when we deal with weak signals that interfering noise becomes a problem. So one thing we soon realize is that we usually only need to improve the S/N when signals are weak.

Usually the distance a transmitter is from the receiving antenna is the primary factor in determining how weak or strong a signal will be; the farther away from your receiving antenna a transmitter's antenna is located, the weaker its signal will be. Another factor in determining received-signal strength is the initial power of the transmitter; higher powered transmitters radiate stronger signal levels.

Another concept that is important in determining received-signal level is the gain of the antenna transmitting the signal to which we are listening. If the transmitting station is using a beam antenna which gives a high level of gain, and if that beam is pointing its main lobe of radiation at our receiving antenna, then our receiving antenna will receive a higher level of signal from that transmitter than would be true with a transmitting antenna with a lower gain level.

The Receiving Antenna:

Of course, the gain and directivity of the antenna which we use to receive the signal are factors which help determine the level of the received signal which reaches our receiver. If we use a high-gain receiving antenna, and the antenna is oriented such that its directivity pattern gives maximum response in the direction from which the desired signal originates, then the received signal strength will be higher.

With the receiving antenna there is another important consideration for improving the strength of the signal in relation to the received noise (the S/N). That consideration is that the directivity pattern of a directional antenna tends to reject received noise coming from directions other than its beam direction. This means that if there is noise which interferes with the signal that you want to receive, and that noise is coming from an off-beam direction, that noise will not benefit from the gain of the antenna as will the signal (see fig.1). In fact, the received noise will

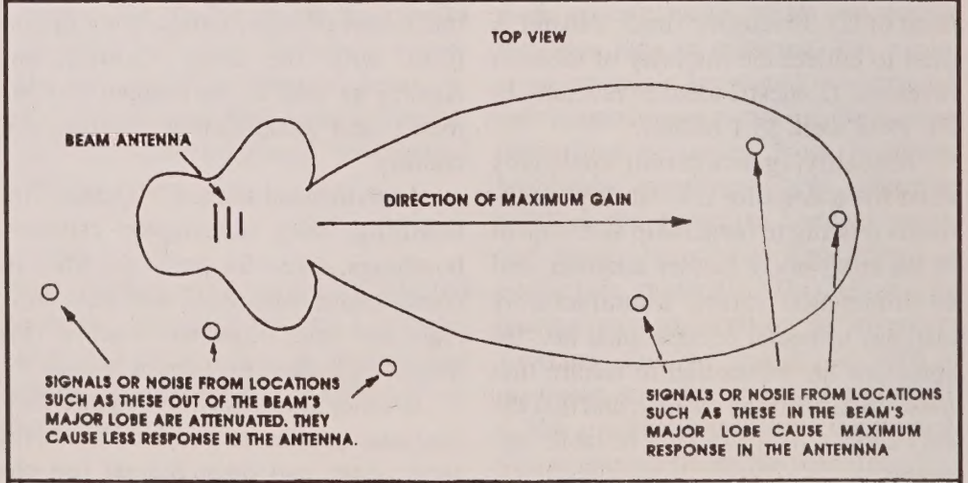
TOP VIEW
BEAM ANTENNA
DIRECTION OF MAXIMUM GAIN
SIGNALS OR NOISE FROM LOCATIONS SUCH AS THESE OUT OF THE BEAM'S MAJOR LOBE ARE ATTENUATED. THEY CAUSE LESS RESPONSE IN THE ANTENNA.
SIGNALS OR NOSIE FROM LOCATIONS SUCH AS THESE IN THE BEAM'S MAJOR LOBE CAUSE MAXIMUM RESPONSE IN THE ANTENNNA

FIG. 1. DIRECTIONAL PATTERN OF A BEAM ANTENNA WITH INDICATIONS OF THE ANTENNA'S DIFFERENTIAL RESPONSE TO A FEW POSSIBLE SIGNALS FROM VARIOUS LOCATIONS.

be reduced in strength due to its being in a low-response portion of the receiving antenna's directivity pattern. Obviously this gives the signal a relative advantage in comparison to the noise (which is actually reduced in strength) and so the S/N is considerably improved. An improved S/N, as we indicated above, means that the signal will be more intelligible and easier to copy.

Receiver-Generated Noise:

So far the noise which we've been talking about is noise that exists as radio waves and which is received by the receiving antenna at the same frequency as is the signal to which you are tuned and listening. Besides received noise, there is another kind of noise to consider in radio reception. This other noise is generated within the receiver itself! When you turn off the squelch on your scanning receiver and hear a roaring sound, that sound is due to small amounts of noise generated in early stages of your receiver and then amplified many times by the later receiver stages. To demonstrate that this noise is generated within the receiver itself just disconnect the receiver's antenna so that the receiver is unable to receive any over-the-air noise. The level of noise which you hear coming from your speaker will not change much. In the next few paragraphs we'll explore what preamplification can do to help us combat the interference this receiver-generated noise can cause.

Preamplification:

There is a limit to just how weak signals can be and still overcome the noise our receiver generates. This means that we want the signals we'd like to scan to be at least strong enough to be heard above this noise when the signal reaches our receiver. We've just discussed how we can make the signal strong by a gain antenna, and how we can keep received noise low by use of the gain antenna's directional pattern. Another way to help the S/N is to keep the signal strong as it travels from the antenna down the transmission line; we don't want it to arrive at the receiver antenna input too weak to be heard above the receiver noise awaiting it there. The first thing we want to do to keep the signal strong is to use high-quality feedline to reduce attenuation of the signal. Going further, if we add an amplifier for the signal at the antenna, then the signal is amplified before it starts down the feedline and will be stronger when it reaches the receiver than it would otherwise be. Such an amplifier is called a "preamplifier."

There is a limit to how much a preamplifier can help in weak signal work, and that limit is determined by the amount of noise generated in the preamplifier itself. Just as the noise generated in the receiver will compete with signals as they are processed by the receiver, so will this noise in the preamp compete with signals as they are amplified in the preamp.

The reason a preamp can improve the S/N is that the preamp generates much less noise than does the receiver. Thus a preamplifier amplifies the signal but adds only a little noise. The amplified signal with its low noise level then encounters the higher noise level generated by the receiver; this stronger signal can now be heard above the total noise (received noise and preamp noise) better than the unamplified weak signal could be heard above the receiver noise alone.

VHF-UHF vs HF:

The technique of using a preamplifier ahead of the receiving antenna's feedline applies to signals received in the traditional VHF-UHF scanning bands. On these bands there is typically a very low received-noise level as compared to the HF and the lower frequency bands; preamplification of VHF-UHF signals, with their low received-noise levels, satisfactorily raises the strength of the desired signal over that of the accompanying low-level noise. On the HF and lower bands where received noise is much higher preamplification ahead of the feedline is generally not useful. Signal loss in the feedline is also lower for the lower frequency bands than at VHF-UHF.

An Antenna from a Reader

USSN reader, Donald L. Tomkinson, recently sent us some plans for a dual-band groundplane antenna he has been using to scan 880 MHz and 1284 MHz. We'll share his report with you; its construction is simple and Donald reports it works quite well. Start with a 6 inch diameter piece of sheet metal and make a hole in its center to accept a female coaxial cable socket appropriate to your feedline (see fig. 2.). Incidentally, feedline at these frequencies should be top-quality, low-loss line. Then make a 3 inch and a 1 3/4 inch element of 14 gauge wire as shown in fig. 2. Don made his from insulated wire, removing 1/2 inch of insulation from one end of each piece for the soldering. These two elements are soldered together and the 3 inch element is then soldered to the coax connector as shown in fig. 2. Don prefers to combine his antenna with a 1090 MHz discone, feeding both antennas into a single feedline.

This antenna gave such good results that Don has now made several of them for other radios in his scanning post.

USSN

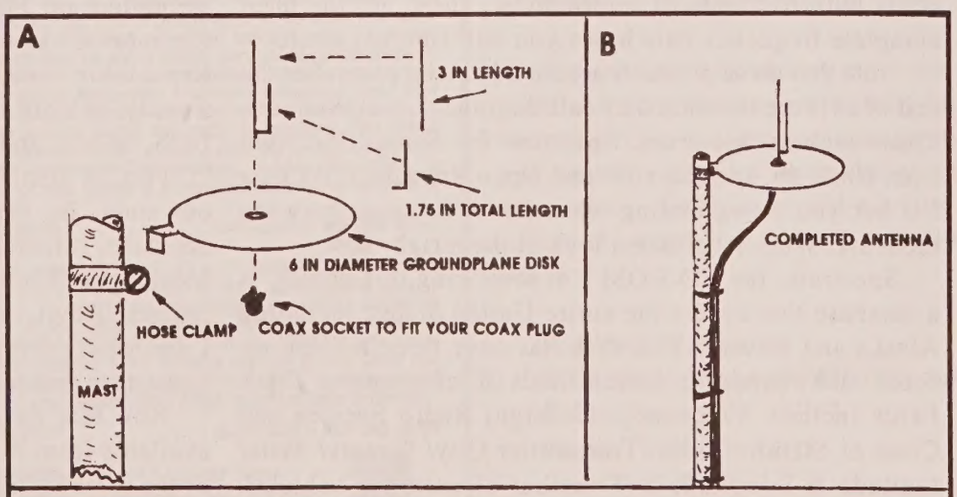

FIG. 2. ASSEMBLY (A), AND COMPLETED ANTENNA (B), FOR THE TOMKINSON ANTENNA.

COMPUTERS AND SCANNING

by Lonnie Gorsline

Spectrum Frequency Database CDROM

In May of this year you may remember that we did a review of the Fall 1994 Spectrum Frequency Database. Now the Spring 1995 database is out and its better than ever.

Before I get into the review of the program I thought you might like to know a little bit about PerCon Corporation. Many of you may not know it, but PerCon is the official FCC contractor for public license data, and was the first to bring FCC Master Frequency data to CD-ROM. They provide FCC-related databases for business and amateur markets in an ISO 9660 CD-ROM format that can be read by both PC and Macintosh compatible computers.

PerCon has several CD-ROM databases available, including regional CD-ROMS that cover five areas.

NE -- (ME, VT, NH, MA, RI, NY, DE, CT, NJ, MD, DC, PA, OH, VA, WV)
Part number CDNE

SE -- (WV, VA, KY, TN, NC, SC, MS, AL, GA, FL)
Part number CDSE

NC -- (MI, WI, MN, ND, SD, MT, WY, NE, IA, IL, IN)
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Part number CDSC

WE -- (WA, OR, ID, CA, NV, UT, AZ, AK, HI)
Part number CDWR

Each regional CD-ROM retails for $99.95 and if you want all five regions, you can order them under part number CDRSET. The set retails for $450.00. Also note that each of the regional CD-ROMS contains over 70,000 records with 61 fields of information. These are the most complete frequency data bases you will find anywhere.

Note that these products are for advanced users. For the rest of us there are what they call Beginner Level Products. These include Spectrum, Spectrum for Scout, Spectrum Lite, Ham_db, and Ham_db and Open Repeaters. By now I'll bet you're wondering what the differences between them are. Well, let's take a look at them right now.

Spectrum, the CD-ROM I'm reviewing this month, is a database that covers the entire United States, including Alaska and Hawaii. This disk has over three million records each containing fifteen fields of information. These fields include: Frequency, Callsign, Radio Service and Class of Station Codes, Transmitter City/ County/ State/ Latitude & Longitude and number of units for vehicles, marine, aircraft, portables and pagers. Spectrum can be run in Windows, DOS, and MAC. Price: $29.95

Spectrum for Scout is the same as Spectrum except that it is specifically designed for use with OptoElectronics Scout. It has all the same information as Spectrum but allows processing of data from a Scout data file. This CD-ROM can be run in Windows, DOS, and MAC. Price: $39.95

Spectrum Lite is similar to Spectrum but with fewer records, only about 2.8 million. Spectrum Lite can only be run in Windows. Price $14.95

Ham_db is a nationwide amateur radio callsign database that contains over 687,000 records and provides up to 43 fields of information. Some of the fields included are: Callsign, Previous callsign, Name, Address, Lat. & Long., DOB, Issue/Exp./Last change date, Callsign group, FCC File No., Operating class, and many more.

The program has seven search functions, including Search by callsign, Previous callsign, Name, City, County, Zip code, or Lat. & Long. You can print the information found to a report or to mailing labels. You can also export information to a database format or an ASCII file. The program runs in Windows only.

You can buy Ham_db two ways, from your local reseller at a price of $14.95 or directly from PerCon, where you can buy a yearly subscription of 12 issues for $99.95.

I've used this program and it works great! If you're an Amateur Radio Operator, this is a must have. For the price, you just can't beat it.

Another Amateur Radio-related product is Ham_db and Open Repeaters. This CD-ROM has all the same information as Ham_db, but also includes a database of open repeaters across the United States. Included fields of information are Frequency, Offset, Auto Patch, PL Tone, Repeater City/ County/ State/ Geocoded Lat. & Long. Repeater information can be searched by Frequency, City, County, or State. This CD-ROM can be run from Windows, DOS, or Mac and the price is only $29.95.

PerCon also has a new product that should be coming out soon. Its called PAMS_db, and is an aeronautical database. It features information such as: Pilots Licenses, Mechanics, Aircraft Registration, and Service Difficulty reports. The database will cover the entire United States. I don't have a price on it yet, but once we get it, we will make sure you read about it here.

Now that we have covered some history and products available from PerCon, let's get down to the actual review of the spring edition of the Spectrum Database.

The Spectrum Database can be run in one of three ways, DOS, Windows or Mac. This is one of the new features of the Spring 1995 CD-ROM. Previously, it could only be run

on a DOS machine. Since I use Windows 99% of the time, I thought that this was a great addition. Since I usually run in 256-color mode, the program would not load. After reading the "Readme" file, I soon found the problem. The program will usually only run in systems using the standard VGA drivers. It's possible it could work in your system, but it wouldn't in mine. But don't let that stop you from buying it. If you're an avid Windows user like me, and you don't want to have to switch to a different driver every time you want to run the program, just have it set up to load under a DOS window. I don't know if the program will run under Windows 95, but I don't imagine there will be any problem. As far as the Mac goes, I can't help you there. Since I don't have one, I can't check it out for you.

You can do searches in seven different ways. Actually more than that. You'll see what I mean in just a moment. Within the seven main search criteria are subcriteria you can select from.

The first method to search is by frequency and within this mode you can fine tune to exactly how you wish to search. For instance, you can search a frequency in a City, County, State, or by Lat./ Long. From within each of these subheadings is additional information you need to fill in. For example, let's say you want to search a frequency within a state. You select that heading then, once you are in that menu area, it will ask you for the Frequency, City and what State you want to search. Another option that you have is whether you want an exact match or not. The same holds true for a frequency within a county. The program will ask you for the Frequency, County, and State.

The next method that you can search is a Frequency Range. As before, you have sub headings that you can select from. They are, in fact, the same ones that were used in the Frequency search method.

The third search criterion is the Callsign. This one is a little different, as it searches the entire database, rather than specifying a City, County, or State. Even at that, it only took seven seconds to find a record.

The other four methods are, search by County, City, Company, and Radio Service codes, by city and state. They all work the same way, asking for the state to search, as well as whether you want an exact match or not.

Once you have selected the method you want to search and you have filled in all the information required, you will be asked how you want it displayed. Your choices will be on the screen, an 80 or 132 column printer report or export to a UFDBF-Xbase file. A sidenote here: The export to a Xbase file is useful in many different ways. One that specifically comes to mind is you can use it with ScanWears Soft Control software for a number of different radios, as well as the OptoElectronicsboards.

I think you can pretty well tell by this review that I like the PerCon CD-ROM very much. There are a few things that I wish it could do better. I wish it was faster. Some searches took over an hour, while others took only seconds. Another thing I would like to see in future versions is the ability to stop a search in progress. I found that if a search was taking a long time, I would want to go ahead and just stop it and start over when I had more time. The only way I could find to stop it was to reboot the computer, and you know what kind of things that can do to open files.

One other item I would like to see changed: When you are printing a report to the printer, I would like to be able to specify what font and pitch to use. I wanted to print an 80 column report, but the font and pitch were too big to print it all on the page. This wouldn't be a problem for those of you who have printers that you can specify what font and pitch to use via front panel controls. Those of us who can't are up a creek without a scanner. (A little scanner humor there.) But I haven't given up yet. I'm still working on trying to get it to work.

Bottom line: I think its a good program and worth having, especially for the price. Yes, its slow, but sometimes you have to give up some things to gain others. As far as a rating is concerned, I would give it 3-1/2 out of 4 stars.

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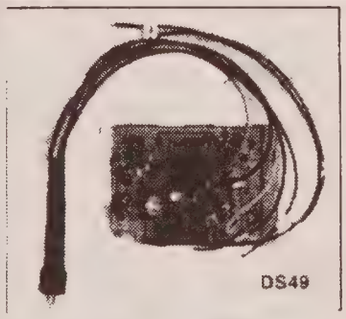

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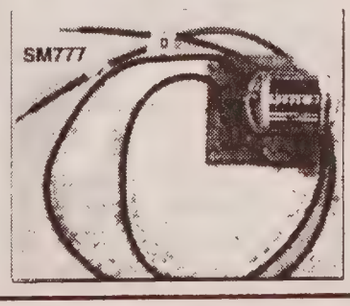

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THE SCANNER MAN

A collection of hints, tips and helpful ideas for the scanner enthusiast. Send your useful hints, suggestions and general-interest questions to: The Scanner Man, USSN, P.O. Box 14923, Portland, Or., 97214.

Prepared by the USSN staff

Have you been monitoring those "new" frequencies in the 72 to 76 MHz band? No, not the ones that are used for point-to-point links, with the endless transmission of paging signals. The ones at 75 MHz that were added a few years ago for low power mobile use.

Quite a number of channels are available in the 72 to 73 and 75.4 to 76.0 MHz band for low power mobile use. But these frequencies are also available for fixed, point-to-point use and are used extensively for links to remote transmitters or receivers.

A dozen or so channels are set aside exclusively for low power mobile use. The principle use of these is for remote control of overhead cranes and other heavy industrial equipment. Industrial users can operate on any of the 72 Mhz frequencies, but 99% of the time, this isn't possible because of interference from fixed users.

In 1992, the FCC allocated an additional twenty frequencies just for low power use. These channels are in the bands at 74.6 to 74.8 and 75.2 to 75.4 MHz, frequencies that used to be part of the Instrument Landing System guard band at 75 MHz. This guard band, 74.6 to 75.4 MHz, was to protect aircraft ILS aeronautical marker beacon receivers from interference. At the 1979 World Administrative Radio Conference, this guard band was narrowed, from 400 kHz on either side of 75 MHz, to 200 kHz, making these two segments available for other uses. The only catch was that they couldn't be used until 1990 and the power had to be limited to one watt or less.

This works out great, since these channels could then be made available for low power mobile use, without any likelihood of interference from high power, fixed licensees on the same frequency.

A number of potential users indicated an eagerness to use these frequencies as soon as possible. Since manufacturers of remote control equipment already use the adjacent band, they would be the first, but other potential uses mentioned at the time include wireless bar code readers, digital remote control and two-way voice. Since the frequencies are also available in the Business Radio Service, they might even also be used by restaurant drive-thru windows.

The same "new" 75 MHz frequencies are also available for use under FCC Part 15, for low power, unlicensed use. Principle Part 15 users include auditory assistance devices - low power transmitters used to broadcast audio to hearing-impaired persons in schools, auditoriums, etc.

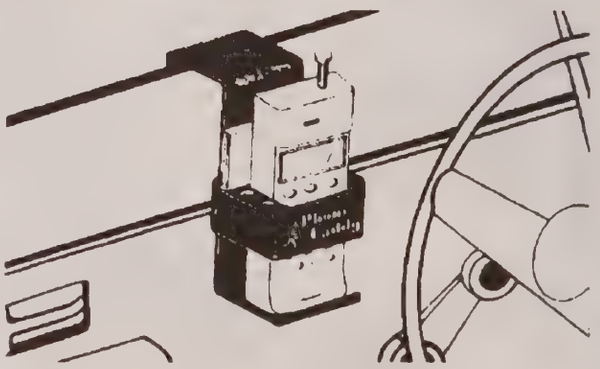
Program the twenty channels into the scanner in your car and listen as you drive around town. You may hear lots of activity or you may hear nothing. But

The "new" frequencies at 75 MHz are:

74.61	75.21
74.63	75.23
74.65	75.25
74.67	75.27
74.69	75.29
74.71	75.31
74.73	75.33
74.75	75.35
74.77	75.37
74.79	75.39

PHONE CADDY

The Phone Caddy will hold almost any handheld scanner or radio. Comes with note pad and indexed booklet to write frequencies in. Compartment behind radio holds note pad and two pencils. 2 13/16 across by 1 11/16 deep. $9.95 + $3.00 S&H. Send check or money order or call 1–800–890–6999 with MC VISA or Discover.



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THE OTHER HALF

by Janet Cravens

Top Ten Reasons Why Radio Nuts Are So Obsessed

Hello again! I've been trying to decide exactly what I should write about this month. While watching Letterman the other night, I got to thinking about the Top Ten reasons why radio nuts are so obsessed. The following are what I've come up with.

10. Because they're nosy. For example, when the couple up the street decided to have a knock-down, drag-out fight several months ago, the police, the fire truck, and ambulance were called out several times that night before they were able to calm things down. If we hadn't had that scanner plugged in on all the right frequencies, we'd never have known that they had been drinking excessively and that she was the one who hit him and put him in the hospital. Most people think when abuse is going on, the abuser is the husband.

But what he doesn't realize is it doesn't always work for the best. For example, about nine months after we heard the call where my nephew was being questioned about "suspicious activities" in the national park near our home, he showed up at Christmas with a cute little daughter we didn't even know he was expecting.

And then there was the night I overheard a 911 emergency call to my sister's home. My brother in law is a diabetic; he had gotten up to go to the bathroom and had slipped into a diabetic coma while he was on his way back to their room. When my sister awakened 30-45 minutes later, she found he was missing and started looking for him, he was almost dead. We heard the ambulance drivers, the emergency medical technicians, and the 911 operators discussing the fact that he was unconscious and they couldn't get a pulse. That wasn't the first time I wish I had continued sleeping instead of hearing the scanner, but it certainly had me sitting up for the rest of the night. Being as far away as I was and since it was 3:00 a.m., I knew I couldn't call and check on him, but I worried myself silly 'till morning.

And then there was the time a man robbed the Waffle House, shot a customer, and was running from the police. Unfortunately, he holed up about 3/4 mile from one of my other sister's home. She had no way of knowing he was on the run and she doesn't always keep the doors to her house locked. Again, I worried myself sick until I finally decided to wake her up to make sure the doors were locked and she was okay. We heard air-to-ground patrols, sheriff's deputies, and Georgia State Patrol that night, all discussing where he was and we heard when they arrested him. What a relief! So, in my opinion, I think it pays to be nosy.

9. Because he's a closet voyeur. For example, before it became illegal to listen to cellular phone calls, some of those came across on the scanner. One night we heard a couple of people discussing a drug purchase, but the man who was selling the drugs wanted to take a little of the money out in trade from the woman who was buying the drugs. That definitely did not please the woman.

One night several months ago, we heard one policeman talking to a policewoman about picking up a homeless man who had been "spanking his monkey" outside the local sporting goods store. According to the policeman who arrested him, he finally had to handcuff the suspect and put him in the police car because the man decided to "spank it again" while the police were filling out the paperwork.

And of course, don't forget those parents who are so concerned about their children that they buy those baby monitors or intercom systems for their children's room. What some parents don't understand is that people who have scanners sometimes can hear what goes on in the baby's room on their radio - and what's happening in the parent's room. Please people - one baby at a time is enough.

8. Because there are too many chores on their "Honey-Do" list. Roger is notorious for being busy when I need something done. He's too busy sometimes to do laundry because he's writing an article for a magazine. At other times, he's answering e-mail and can't be disturbed. And you might as well forget it if yard work has to be done. He's certainly too busy for that. For grocery shopping, he can't be disturbed; for paying bills, he usually "can't find the checkbook"; for cleaning the garage, he has to go find a new pole for his antenna so it can go higher in the air; for going out to dinner, he can't take his scanner into the restaurant and he doesn't feel hungry enough to go out to eat, why don't I just pick up tacos for him on my way back from dinner - by myself! I've decided to take reservations from people who want to go to dinner with me during those times he's too busy. That way I can still go out, but I won't have to eat alone.

7. He's trying to decide if he really does have a hearing problem. For years, Roger has complained of having a hearing problem. For example, he can't talk to me and listen to the TV at the same time. Therefore, if I want to talk to him, I have to mute the sound on the TV or wait until "this show" goes off. I have been absolutely forbidden to talk to him during NYPD Blues, X-Files, and any other shows dealing with UFOs, radios, scanning, police drama, news, talk shows, and TALK SOUP! In other words, I have to make an appointment to have a discussion with him because the TV is on, the shortwave is on, the scanner is going, and the phone is ringing on the computer which runs the bulletin board. God forbid the kids and I should want something during that time. He does, however, remember to come out of the bedroom long

enough to get cheese and crackers and a soda every once in a while. And if I'm lucky, he'll come out during dinner when I make everyone else turn off all electronic devices and TALK to each other. But it makes him very nervous to have all that quiet falling upon his ears.

6. Nothing else exciting is going on. Of course, I mentioned several months ago that going to the store is like planning for a week's vacation. What I didn't tell you is the rest of the vacation story. We went to Biloxi and Gulfport, MS, in May. On Saturday morning, I sat on a bench on the side of the ocean, contemplating life and watching the sea gulls soar above my head. I listened to the "pink noise" of the ocean and admired the Creator for the power behind the noise. I watched and heard the ocean lap gently against the side of the shore and wet the sand. I loved it! I broke up Oreo cookies and threw them up at the sea gulls, watched them dive and eat them, then fight over the next bite. At any one time, over 50 sea gulls were flocking over my head waiting for the next bite of Oreo cookies. Sounds like fun, right?

Well, it was - for me. Did I happen to mention what Roger was doing during this time? He was sitting in the van with his headphones on trying to input all the frequencies from the Coast Guard into the radio so he would be prepared for our cruise out to Manhattan Island. And of course, during our one-hour cruise to Manhattan Island, he had his headphones on, listened to the Coast Guard assist with a boat which had gone aground that morning, and listened to the Captain discuss things with his employees on a different level of the boat. And me?...during this trip I was in the front of the boat, laughing as the ocean spray came up off the water and hit my face, basking in the sunshine and watching the dolphins play with each other in the ocean.

5. He might have to talk to me if he's not busy. And I guarantee you, Roger is one busy dude. For example, when dinner needs to be cooked, he's too busy working on "stuff". When laundry needs doing, its "woman's work." It usually ticks me off enough when he tells me that, that I'm through with the laundry before I can calm down enough without having a 10-16 (domestic disturbance).

4. The boys may need to talk about the birds and the bees, but last time he checked, the birds had gone south for the winter. Our children are 12 and 16; its surprising how much I have to tell them about the birds and the bees. I guess I always thought it would be Roger's turn to talk to them about those things. But several months ago, my oldest son, David, came into the kitchen while I was cooking dinner, and said, "Mom, I have one of those questions I know you've been waiting for me to ask." I said, "okay, what is it?" He said, "How do you French kiss?" I looked at him in silence for several minutes and said, "Well, Dave, I can honestly say I haven't been waiting for you to ask me that, but hold on. Roger!" (I hollered). Roger came into the kitchen, I told him what David had asked, so he bent me over his arm and laid a WONNERFUL kiss on me while David watched. When we were through, Roger asked "Is that enough?" David said yes, but it would have helped a lot if we'd had glass mouths so he could have seen everything. Anybody get the idea here that I live with a lot of silly people? By the way, his girlfriend said we did good!

3. He's keeping statistics on how many people in Douglas County have a "domestic disturbance" for the Battered Women's Shelter. Being an employee with the Statistics Branch of a federal government office, he thinks he has all the training he needs to learn how to add two plus two and come up with four. My dad always told me he had 11 fingers on his hands and he could prove it. He held up one hand and counted backwards, ten, nine, eight, seven, six, then said, "There're five on this other hand, right?" I said yes, and he replied, "Well, six plus five is 11." Roger knows how to count like that too, so he's really helping out the Battered Women's Shelter. And of course, when Roger's really being silly, he tells me that all battered women have something in common anyway - none of them know when to shut up. (This was said totally in jest - we do not condone violence and abuse! Lighten up, folks, this is not brain surgery.)

2. He may have to participate in family activities if he's not too busy listening to the scanner. For example, I've found a wonderful way to make the kids participate in all that yard work. When they start a fight or argument, I've decided that must mean they have lots of excess energy, so we go work in the yard. When the boys have friends over and they start to get out of hand, I casually mention that there's lots of yard work yet to be done. And they settle right down. Now, Roger is another story. Did I tell you that when he goes out to mow the lawn, he takes his portable scanner and his headphones and listens to the radio while he "tools" around the yard on the riding lawnmower. I'm sorry, folks, but in my opinion, this is an obsession - not a hobby. I'm sure no one else has ever tried this, huh? Actually, I'm sure four or five of you look like you have just had a bright idea and are on your way to mow the lawn as soon as you get through reading this article.

And from the comments I've received from many people since I started writing, many of you started out the same way. So I guess what you really need to know is if your husband or wife isn't as far gone as Roger, perhaps you can get him or her some help at a psychiatric clinic before it gets worse. As far as Roger is concerned, maybe you've heard the song "I'm just making the best of a bad situation"? As he keeps telling me, at least he's not out drinking, carousing, and chasing women, and eventually when he gets ready to turn most of the noise off, he can't go to sleep without me, so he always remembers to find me to go to bed. That's not bad, in my book.

1. Because he wants to. And if that's not a good enough reason, that's too bad. Its his reason and he's sticking to it!

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Monitoring Times

Published by Grove Enterprises

TRANSPORTATION

by Roger West

Portland, Oregon Area

Portland, Oregon is one of the principal cities of the Pacific Northwest, and is the largest city in Oregon, and the seat of Multnomah County. It is located in the Northwest part of the state and straddles the Willamette River just above its confluence with the Columbia River. The greater metropolitan area also incorporates the Vancouver, Washington metropolitan area and the City of Portland enjoys a relatively mild climate.

Although Portland has some important manufacturing establishments, notably those turning out wood products and processed foods, its economy is primarily commercial. The Port of Portland is used by both barges carrying grain and ores downstream through the Columbia Gorge and oceangoing vessels, which can navigate the Columbia River as far upstream as Portland. Culturally, the city is served by the University of Portland, Reed College, Lewis and Clark College, and the medical school of the University of Oregon. Other cultural institutions include the Portland Art Museum, the Oregon Historical Society and Museum, the Oregon Museum of Science and Industry, and the Oregon Symphony Orchestra. To the North and East of the City of Portland rise the snow-topped mountains of the Cascade Range, notably Mt. Jefferson and Mt. Hood. To the East is the Columbia River Gorge, which is lined with 200-foot cliffs. Headquarters for Mt. Hood National Forest and the Northwest Pacific regional headquarters of the United States Forest Service are located in Portland, which is the only fresh-water port on the Pacific Coast of the United States. U.S. Scanner News is also based in Portland.

The **Columbia River** is a major waterway of the Northwestern United States and Southwestern Canada. Fed by rain and snow from the mountains of British Columbia, Canada, it rises in Columbia Lake, British Columbia and flows 1210 miles, first Northwestward and than South, entering the United States in Northeastern Washington. It follows a generally Southward course through the state and then turns West, forming part of the border between Oregon and Washington in its final 300 miles to the Pacific Ocean. The Columbia drains an area of 258,000 square miles, 85% of it in four Northwestern United States and 15% in Canada. The headwaters of the Columbia River include several large glacial lakes. The Willamette River is one of its important tributaries.

One of the most powerful rivers in the United States, the Columbia and its tributaries account for one-third of all United States hydroelectric potential.

The **Willamette River**, which is formed in Western Oregon by the confluence of the Coast and Middle Forks, is 300 miles long and flows Northward from near Eugene to join the Columbia near Portland. It is widely used for irrigation and hydroelectricity generation and is navigable by small vessels above Portland and ocean-going vessels from Portland to the Columbia River.

TRANSPORTATION

BY AIR

PORTLAND INTERNATIONAL AIRPORT, PORTLAND, OR.
304th RESCUE SQUADRON and the 939th RESCUE WING of the AIR FORCE RESERVE; 83rd AERIAL PORT SQUADRON, ARMY 12th SPECIAL FORCES GROUP; 123rd FIGHTER SQUADRON and the 142nd FIGHTER GROUP of the OREGON AIR NATIONAL GUARD !
REMARKS- Attended continuously.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!
RESTRICTIONS!! ** Airport is closed to non-powered aircraft, except in an emergency!!
** Migratory and wintering flocks of large waterfowl on and in vicinity of airport!!
** Heavy Sea gull activity September-April, expect high number of birds year around.....check local advisory!!
** Uncontrolled traffic at Pearson Airpark, Vancouver, Washington!!
** Noise abatement area!!

AIRFIELD OPERATIONS:

UNICOM	122.950	
ATIS	128.350	269.900
FSS	122.600	255.400
App	118.100	284.600
	133.000	360.800
	126.900	290.300
Dep	118.100	
	119.800	299.200
	124.900	
	127.850	294.700
Tower	118.700	257.800
Ground	121.900	348.600
Clearance	119.000	318.100
Air National Guard		
Base Operations 142 Fighter Group		
Guard Command Post		280.500
Guard Ops	288.900	
GROUND OPERATIONS:		
Base Operations	413.025	
Flightline Operations	413.000	
Security	413.200, 413.050	
Refueling Trucks	413.400	
Fire Department/Crash Crews/Trucks	413.300	
Airport Terminal Services	460.775	
Lockheed Corporation	464.925	

PORTLAND HELIPORT, PORTLAND, OR.
REMARKS- Unattended.
PILOT ALERTS!! ** 199' lighted radio tower 4950' East of heliport!!

CTAF/UNICOM	123.050	

PORTLAND-HILLSBORO AIRPORT, PORTLAND, OR.
REMARKS- Attended 1400-0600.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!
** Flocks of waterfowl in vicinity of airport November to May!!

CTAF	119.300	
UNICOM	122.950	
ATIS	127.650	
FSS	122.450	255.400
Appr/Dep	118.100	284.600
Tower	119.300	239.300
Ground	121.700	

PORTLAND-MULINO AIRPORT, PORTLAND, OR.
REMARKS- Attended daylight hours.
PILOT ALERTS!! ** Power lines and poles on and in vicinity of airport!!
** Tall trees on and in vicinity of airport!!

CTAF/UNICOM	123.000	
Clearance	119.950	

PORTLAND-TROUTDALE AIRPORT, PORTLAND, OR.
REMARKS- Attended 1500-0600.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!
** Migratory flocks of waterfowl on and in vicinity of airport!!

CTAF	120.500	
UNICOM	122.950	
Appr	118.100	284.600
	133.000	360.800
Dep	133.000	360.800
Tower	120.500	254.300
Ground	121.800	

EVERGEEN FIELD, VANCOUVER, WA.
REMARKS- Attended daylight hours.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!
** Obstructions around airport are unlighted!!
RESTRICTIONS!! ** Arrival and Departure from Northeast only!!

CTAF/UNICOM	122.700	
FSS	122.350	
Clearance	121.650	

PEARSON AIRPARK, VANCOUVER, WA.
REMARKS- Attended November-March 1600-0200, April-October 1600-0300.
RESTRICTIONS!! ** Arrival and departure traffic pattern North of airport!!

CTAF/UNICOM	123.000	
FSS	122.350	
Appr	118.100	284.600
	133.000	360.800
Dep	133.000	360.800
Clearance	121.650	
Army Operations	141.075	

SKYPORT AIRPORT, CORNELIUS, OR.
REMARKS- Attended 1400-0400.
PILOT ALERTS!! Tall trees on and in vicinity of airport!!

CTAF	122.900	

STARK'S TWIN OAKS AIRPARK, HILLSBORO, OR.
REMARKS- Attended dawn-dusk.
PILOT ALERTS!! ** Tall trees in vicinity of airpark!!
** Flocks of large waterfowl in vicinity November-May!!

CTAF/UNICOM	123.050	
Clearance	119.950	

SPORTSMAN AIRPARK, NEWBERG, OR.
REMARKS- Attended dawn-Dusk.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!

CTAF	122.900	
Clearance	126.000	

OREGON CITY AIRPARK, OREGON CITY, OR.
REMARKS- Attended daylight hours.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!

CTAF/UNICOM	122.800	
Clearance	119.950	

SCAPPOOSE INDUSTRIAL AIRPARK, SCAPPOOSE, OR.
REMARKS- Attended May-August 1600-0500, September-April 1600-0200.
PILOT ALERTS!! ** Extensive ultralight activity on and in vicinity of airpark!!

CTAF/UNICOM	122.800	
Appr/Dep	133.000	
Clearance	121.650	

VERNONIA AIRFIELD, VERONIA, OR.
REMARKS- Unattended.

CTAF	122.900	

McNARY FIELD, SALEM, OR.
REMARKS- Attended 1530-dusk.
PILOT ALERTS!! ** Tall trees on and in vicinity of airport!!
** Flocks of birds on and in vicinity of airport!!
** Heavy concentration of waterfowl on and in vicinity of airfield!!
** Flocks of geese on and in vicinity of airport!!
** Noise abatement area!!
** Helicopter operations on and in vicinity of airport!!

CTAF	119.100	
UNICOM	122.950	
ATIS	124.550	
FSS	122.600	255.400
Appr/Dep	125.800	291.700
Tower	119.100	257.200
Ground	121.900	
National Guard Operations	40.90fm	241.600

BY LAND

RAILROADS:

Amtrak at Portland Yard	160.455
Burlington Northern at Portland Road	161.250
Carman	161.220
PBX	160.665
	161.505
Yard (Willbridge)	160.725
Piggyback Operations	160.995
Hub	160.965
at Vancouver Yard	160.575
	160.725
	160.650
	160.830
	161.010
	161.310
	161.370
	160.545
	160.590
Road	160.920
	161.100
	161.415
Mt.Hood Railroad at Hood River	
General Operations	160.365
	161.055
Peninsula Terminal at Portland	
General Operations	457.775
Portland Terminal RR at Portland	
General Operations	161.490
Southern Pacific at Portland	
Road	161.550
	160.320
Yard	161.430
PBX	160.950
	161.160
	160.410
	160.470
	160.515
	160.740
Tri-County Metro	
Transit District	
at Portland	
Road	452.325
	457.325
Yard	452.875
	457.875
Police	453.650
Washington Park & Zoo RR at Portland	
General Operations	151.655
East Portland Tractor RR at Portland	
Road	160.575
	161.190
Yard	161.340
Union Pacific at Portland	
Road	160.515
Administration PBX	160.290
	161.520
PBX	160.605
	161.025
Yard	160.230
	160.980
Piggyback Operations	160.830
Willamette & Pacific RR at Portland	
Road	160.770
PBX	160.215
	161.175

TAXI:

Broadway Cab at Portland	857.1125
	858.1125
Yellow Cab at Hillsboro	452.400
Radio Cab at Portland	452.150
	452.225
	452.050

BY SEA

CAMAS, WASHINGTON:		
James River Company	156.450	Comm/Rec
VANCOUVER, WASHINGTON:		
State of Oregon	156.650	Navigation (bridge
PORTLAND, OREGON:		
American Pacific	156.900	Commercial
Brix Maritime	156.500	Commercial
Cascade Shipping Co.	156.500	Commercial
	156.450	Comm/Rec
Chevron Industries	156.600	Port Ops.
	156.900	Commercial
C.G. & M. Enterprises	156.425	Recreational
	156.450	Comm/Rec
McCall Oil &	156.600	Port Ops.
Chemical	156.425	Recreational
	156.450	Commercial
River Place	156.425	Recreational
	156.450	Commercial
Rocky Pointe Marina	156.425	Recreational
	156.450	Commercial
Sea Explorer Assoc.	156.425	Recreational
Columbia River Yacht		
Club	156.450	Comm/Rec
Multnomah County	156.575	Recreational
	156.600	Port Ops.
	156.650	Ship to Ship
Yachts O Fun River		
Boat Cruises	156.450	Comm/Rec
	157.025	Commercial

AIR MAIL

My first letter comes from Earl Wilber of Wellston, Ohio. Earl videotaped and monitored the American Queen Riverboat's maiden trip up the Ohio River to Pittsburg, Pa.. The following are the frequencies that Earl monitored at Gallipolis, Ohio:

American Queen to R.C. Byrd Locks	156.650
American Queen to Coast Guard Auxiliary	157.175
American Queen to Coast Guard	156.600

Earl also sent me a list of transportation frequencies that he monitors in his home town of Wellston, Ohio:

Great Miami and Scioto Railroad Gen. Ops	160.905
James A. Rhodes Airport Unicom Jackson, Ohio	122.800
Ohio University Airport Unicom, Albany, Ohio	123.000
Aircraft Air to Air	123.450
Aircraft Air to Air	122.750
Ohio National Guard Operations (Victor)	123.075
Indianapolis Center at Portsmouth	127.100

My other letter was from Jack McCartan who writes the Delaware Column for National Scanning Report. Jack recently visited the Dover Air Force Base Museum at Dover,

Delaware. He was able to view the CG-4A troop and cargo glider as well as a giant C-5 jet transport. Jack also watched a demonstration of a military explosives disposal robot, as well as the 436th Security Police Canine Teams. Other demonstrations were given by the base Honor Guard Silent Drill Team and base firefighter skills and their equipment were also on display.

Jack went on to report that several local aviation companies provided free airplane rides for boys and girls ages 7 to 17 from Chandelle Airport which is located just West of Dover. The rides were given out during the second annual International Young Eagles Day. In other aviation news from Jacks part of the country, he reported that the FAA turned control of the New Castle County Airport to the Delaware River & Bay Authority. Jack also reported that the Air Force dispatched more than 40 Dover Air Force Base specialists to England and Croatia.

In other news from Delaware a pilot of a twin-engine Cessna 310 snapped the tether of a state traffic surveillance balloon near Dover Downs. The deflated 16-foot balloon and its $150,000 camera system landed in marshland near Port Mahon and was recovered by private pilots who were offered a reward for its recovery.

Well, that will wrap things up this month for the transportation column. If you read or hear about something interesting, transportation-wise, please send it to me at the following address: Roger West, P O Box 291, Amery, Wi. 54001-0291. I am always interested in hearing what's going on and what you are monitoring in your part of this great country of ours!

For this month 73's and happy monitoring! Roger

CREDITS:

Earl Wilber, Wellston, Ohio

Jack McCartan, Newark, Delaware

(Jack is the Delaware Editor for N.S.R.)

DoD Aviation Manuals

DoD Aviation Charts

My files

FCC Data Files

Bill Farmer

(Bill is the co-editor of the "RAILROADS" column in the RCMA Journal Newsletter, and in my opinion, I don't know of anyone more knowledged on the subject of railroads then Bill Farmer!)

N.C. who requests that he/she remain anonymous

K.B. who requests that he/she remain anonymous

Roger's note: If someone wishes to remain anonymous, I will honor that request!

USSN

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SPACE COMMUNICATIONS

By Donald E. Dickerson, N9CUE

The Future

It may not be the kind of thing you want to hear. If you are over 40, it's just another technology, too complicated to concern yourself with. If you are under 40, you will no doubt take the news in stride. YOU no doubt are computer literate and are ready to experience the communications technology you have seen on Star Trek reruns through the years.

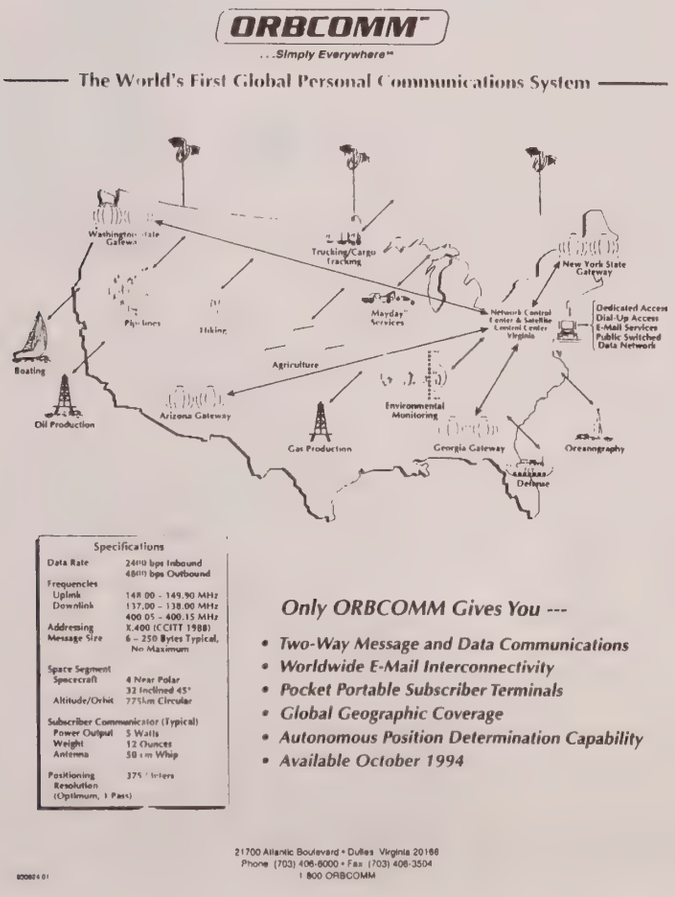
How would you feel about driving down a deserted stretch of highway, outside the reach your cellular phone service. You pull a credit card-size communications device out of your pocket and make a long distance telephone call anywhere in the world, at 60 miles per hour? That's even smaller than the Star Trek communicators, though they don't use sub-space frequencies. No, they're not yet on the market. But their predecessors are. And they are the same size as a flip phone. I'm told the credit card size phone will become a reality with time.

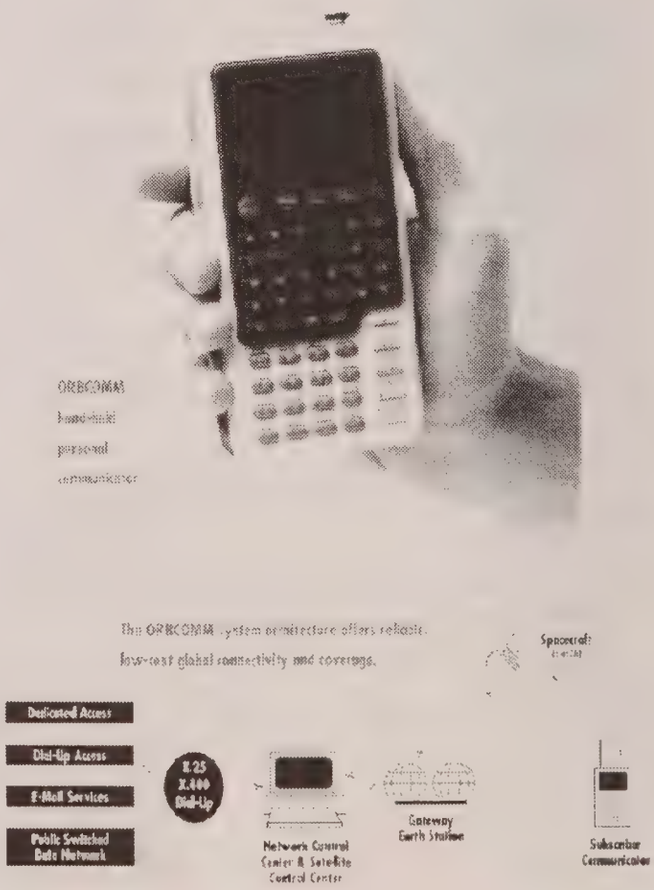
The news you may not want to hear is that satellites are taking over virtually every conceivable, and some not so conceivable, method of communicating. Those they can not replace are still strongly influenced by satellite technology. Most nationwide radio talk shows, sporting events and music programs are distributed to local AM and FM radio stations via satellite link.

And the much-talked-about digital radio modes are being used on satellites now and we will see standard AM and FM broadcast stations soon start transmitting their signals in analog (AM & FM are analog) type signals and digital signals simultaneously. This will continue for some years until all radio receivers have become digital. You know, the radio in your car, stereo at home and even your walkman.

Not only can satellites replace almost any existing communication system, they are also used in totally new ways. Emergency services, Police, EMS, Search and Rescue, as well as commercial enterprises can use satellites to locate patrol cars or individual officers with accuracy to within a few feet.

Commercial airlines and the military are using satellites for their aero communications on a world-wide basis, effectively eliminating the use of HF frequencies, except as backup, in the not too distant future. Airline customers will find a wide range of satellite-technology-driven services available to them from their seats. Some airlines already have LCD displays with data, voice and fax services as well as other entertainment type services in several languages.





Current military and Amateur Radio satellite systems provide data communications, computer to computer. Some of the new personal communication satellites that are being developed will provide similar service as well as the usual voice, fax and messaging we have grown accustomed to.

Who is developing these systems, what will they consist of and when will they be available?

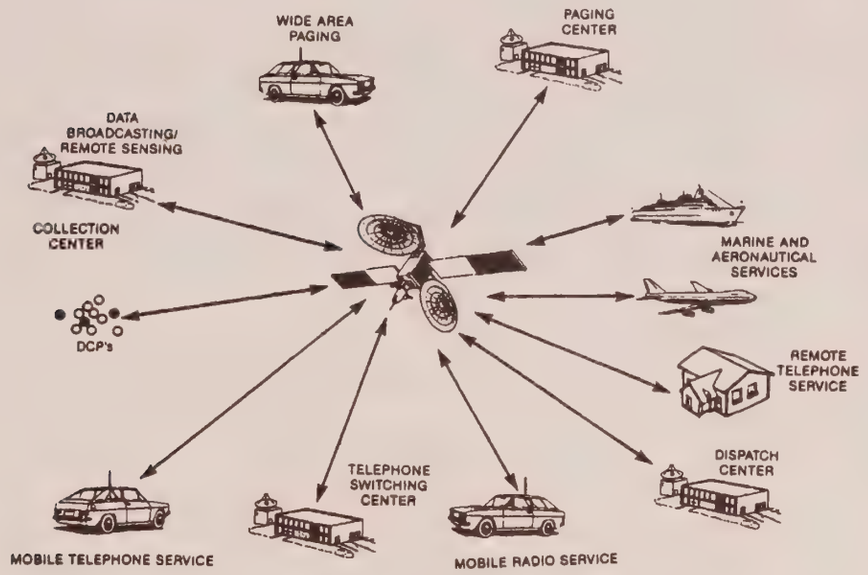
To begin with, your tax dollars are responsible for development of this space technology. Several NASA and JPL facilities are responsible for the prototypes and developing the digital signals and transmission techniques as well as the hardware for such systems. One spacecraft in particular, managed by Lewis Research Center in Cleveland, is called ACTS, for Advanced Communication Technology Satellites program. This is the test bed for future communication technology. This spacecraft is experimenting with digital techniques, encryption, voice and fax, compression techniques, mobile, aeronautical and personal communication devices. These experiments are being conducted in the 20 & 30 GHz range, well out of range of most hobby communication equipment. Unique signal characteristics at these frequencies have required unique engineering, especially in mobile communications. Buildings, trees and even rain at these frequencies will weaken signal strength from the satellite considerably. Mobile antennas which consist of phased array beams that automatically scan the sky for the satellite signals are being developed by JPL.

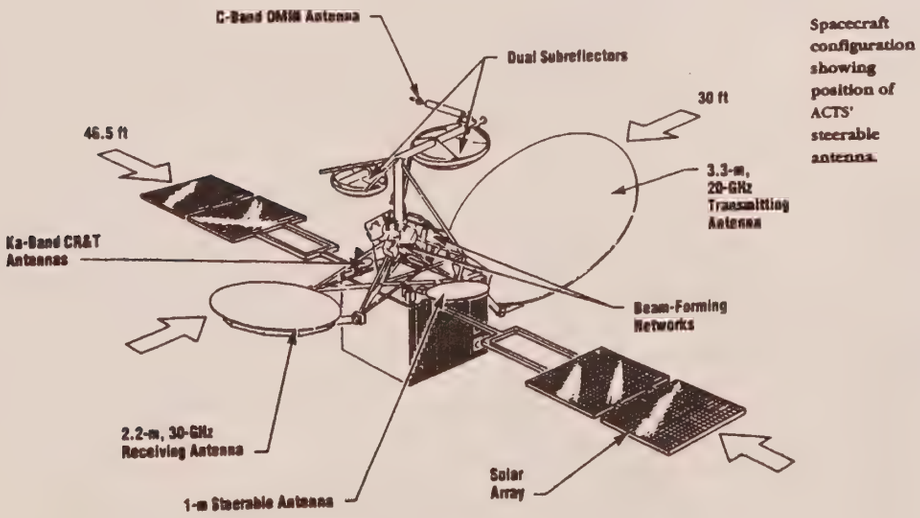
Another integrity possibility is the development of systems that work with your computer, at home or at work. NASA is working on a two-way and one-way communications that turn your computer into a radio transceiver, able to send two-way messages through satellites to anyone in the world, to connect to wireless computer bulletin boards or receive 200 channels of digital quality stereo programming, music, news and information. This type service is still some years off (perhaps 6-10).

Several reputable companies are in competition for a piece in this market. They include TRW, Motorola and a company called Orbcomm, to name only a few. Orbcomm may be the first company to have an operational satellite system. Unlike the ACTS spacecraft which is in geo-stationary orbit (100 degrees West) and uses EHF, Orbcomm's approach is to use a fleet of Low Earth Orbit satellites and VHF (137 MHz). Orbcomm will provide two-way personal data messaging to subscribers through a small hand-held transceiver, about the size of a cellular telephone. One-way messaging may also be available with a simple alphanumeric type beeper.

Satellites and their digital techniques will continue to impact the quality of our life and the way we communicate. They may most dramatically impact our hobby. There could come a time when the hobbyist is locked out of the spectrum. All we may have left is to become Amateur Radio operators or be content with becoming just another subscriber to a multitude of varied high tech services, for a price.

The landscape of the Information Super-highway is and will continue to be littered with spacecraft as part of its infrastructure. How soon will these services be available? Soon. There IS a satellite in your future, and the future is





Space Communication Frequency Allocations

21.000 - 21.450	MHz	Amateur
24.890 - 29.4990	MHz	Amateur Radio Satellites
28.000 - 29.700	MHz	Amateur Radio Satellites
30.000 - 30.560	MHz	Satellites and Research Beacons
39.980 - 40.020	MHz	Space Research
137.000 - 138.000	Mhz	Weather Satellites
144.000 - 146.000	MHz	Amateur Radio Satellites
149.900 - 150.050	MHz	Radio Navagational Satellites
267.0 - 273.0	MHz	Military Comm Sat downlink
328.6 - 335.4	MHz	Aeronautical Navagation Aids
399.9 - 400.0	MHz	Navagational Satellites
400.0 - 400.15	MHz	Standard Time Signal Satellites
400.15 - 402.0	MHz	Meterological & Research Satellites
402.0 - 403.0	MHz	Research uplink
403.0 -405.0	MHz	Radiosonde (radio equipped research balloons)
406.0	Mhz	International Distress (uplink to SARSAT/COSPAS)
460.0 - 470.0	MHz	Meterological Satellites
1215 - 1240	MHz	Navigational Satellites
1240 - 1260	MHz	Amateur Satellites
1427 - 1429	MHz	Research uplink
1525 - 1530	MHz	General Satellite Downlink
1530 - 1544	MHz	Maritime Satellites
1544 - 1545	MHz	Mobile Satellites
1545 - 1559	MHz	Aeronautical Navigational Satellites
1626.5 - 1645.5	MHz	Uplink for Maritime Satellites
1645.5 - 1666.5	MHz	Uplink for Mobile Satellites
1670.0 - 1710.0	MHz	Meterological Satellites
2200.0 - 2300.0	MHz	Uplink & Satellite Crosslink (interstate)
2483.5 - 2500.0	MHz	Radio Determination Satellites
2500.0 - 2655.0	MHz	Mobile and Broadcast Satellite Downlink
2655.0 - 2690.0	MHz	Broadcast & Research Satellites
3400.0 - 3500.0	MHz	Amateur Radio Satellites
3700.0 - 4200.0	MHz	Fixed Service Downlink
4500.0 - 4800.0	MHz	Fixed Service Downlink
5850.0 - 5925.0	MHz	Amateur Satellite Uplink
7250.0 - 7750.0	MHz	Weather & Fixed service Downlink
7900.0 - 7975.0	MHz	General Uplink
8025.0 - 8175.0	MHz	Mobile & Research Uplink & Downlink
8175.0 - 8400.0	MHz	Mobile & Weather Uplink & Downlink
10.7 - 12.2	GHz	Mobile & Fixed Downlink
12.2 - 12.7	GHz	Broadcast Satellite Downlink
12.7 - 12.75	GHz	Broadcast Satellite Uplink
12.25 - 13.40	GHz	Aeronautical Navigational Satellites
13.4 - 14.0	GHz	Radiolocation & Time Standard Uplink
14.0 - 14.3	GHz	Radio Navigation & Research Uplink
16.6 - 17.1	GHz	Deep Space Probe Uplink
17.2 - 17.3	GHz	Earth Exploration Satellites
17.3 - 17.7	GHz	Fixed Service Uplink
17.7 - 20.2	GHz	Fixed & Mobile Downlink
20.2 - 21.2	GHz	Standard Time Signal Satellites
22.50 - 22.55	GHz	Fixed, Mobile & Broadcast
22.55 - 23.55	GHz	Inter-Satellite (Crosslink)
24.00 - 24.05	GHz	Amateur Satellites
24.05 - 24.25	GHz	Earth Exploration / Government
25.25 - 27.00	GHz	Standard Time Signal / Government
27.5 - 30.0	GHz	Fixed, Mobile Uplink
30.0 - 31.3	GHz	Government Fixed & Mobile
32.0 - 33.0	GHz	Inter-Satellite (Crosslink)
37.0 - 40.5	GHz	Mobile & Fixed Downlink
40.5 - 42.5	GHz	Broadcast Satellites
42.5 - 45.5	GHz	Fixed & Mobile Uplink
45.5 - 47.0	GHz	Radio Navigation Uplink
47.0 - 47.2	GHz	Amateur Satellites
47.2 - 50.2	GHz	Fixed, Mobile Uplink
50.2 - 400.0	GHz	Various Satellite & Space Research

TECHNICAL STUFF

by Steve Donnell, WA1YKL

Uniden BC-9000XLT Review

The new BC-9000XLT, Uniden's newest "flagship" scanner, is without a doubt their most feature-packed scanner to date. The new '9000 also incorporates many significant design improvements over it's earlier predecessor, the BC-8500.

For those already familiar with the BC-8500, the BC-9000 includes a number of features for improved operational ease and flexibility that were not included in the BC-8500. Among them - the ability for the user to select AM, Narrow FM, or Wide FM detection modes. There's also a 15 Db signal input attenuator that can be set to individual channels or used in the VFO and Search modes, plus an audio "High Cut" filter for reducing the effects of static on weak signals or signals with unusually high audio-frequency characteristics to them.

The BC-9000 also includes a couple of features seen previously in the new BC-220 and BC-3000 portables. These include the ability to lock out specific frequencies within the limits of a Search range. This, of course, is VERY helpful for bypassing frequencies that have "birdie" carriers on them or ANY type of non-voice, "data" channel.

The Data Skip function on the BC-9000 works well on any kind of "dead carrier," including most birdies or carriers with a steady audio tone on them, such as the idle state pilot tone of the old IMTS mobile phone system transmitters. And it will respond intermittently to certain types of digital paging transmissions. However, the Data Skip function is completely ineffective against the data channel transmissions from the all-too-common Motorola trunked systems.

Another capability the BC-9000 includes is a frequency "auto-store" feature, which automatically stores active frequencies found during Search into blank memories of designated channel banks. When this function is active, the radio's speaker remains completely muted and there is no way to know what active frequencies have been found until you go back and inspect the newly loaded memories.

While some people dislike this "silent" type of Search operation, favoring instead the approach that Icom and AOR take where the radio operates in "regular" Search mode and also auto-loads active frequencies into memories simultaneously. Since the Auto-store in the BC-9000 causes the scanner to merely pause for less than a second on active frequencies, Uniden's "silent Search and Store" approach could be considered much more efficient, making it more likely that new active frequencies will be found. Isn't that the whole idea of what the Auto-Store function is supposed to be? Why be bothered with (or blocked by) listening to busy dispatch channels while trying to ferret out some little-known car-to-car "chat" channel. One improvement that could be made is to have the activity counter note the number is signal "hits" on different Auto-Stored channels. Even more importantly, when compared with the auto-store feature found in the PRO-2035, the Auto-Store function in the BC-9000 does not store multiples of the same frequency. The Radio Shack PRO-2035 does.

Another nice feature of the BC-9000 is the ability to add alphanumeric labeling to the first 250 of it's 500 memory channels. This can be of great help in providing an at-a-glance reminder of what certain frequencies are.

Not to be overlooked, is the optional ability to add a CTCSS (subaudible tone squelch) decoder to the BC-9000. This can be a great help, allowing you to hear only certain selected users of a radio channel. Provided that they are using CTCSS tones on their signals, of course. CTCSS tone decoding in Uniden scanners isn't anything new. It's been available since the BC-950 (early BC-760). It's about time for Uniden to try a few new tricks. One is that it would be very worthwhile to include DCS- (Digitally Coded Squelch) decoding along with their CTCSS decoding capability. Use of DCS squelch coding is becoming more and more common every day, on both Business AND some new Public Safety radio systems.

It would also be very worthwhile to have included some way for users to easily "find" what, if any, CTCSS (or DCS) tone (or code) is being used on a given channel. Many Amateur FM portables make use of an automated function referred to as "tone search", where the radio's CPU automatically scrolls through all the available CTCSS tones until one is decoded. This can be particularly helpful in finding all of the different tones used on a busy Business channel.

Inside The BC-9000

Perhaps some of the more interesting aspects of the BC-9000 are some of the circuit design upgrades, over the earlier BC-8500 model. Whereas the 8500 uses only three different RF input filters to cover it's entire 25 MHz - 1. 3 GHz operating range, the BC-9000 has 7 filters to cover the same range. This greatly reduces the BC-9000's susceptibility to various types of overload and intermod interference. The BC-9000 also uses RF preamp IC's that have about 7 Db more gain than those used in the BC-8500. Also, while the 8500 used helical filters in the first IF, the BC-9000 uses a pair of SAW filters, providing much tighter selectivity.

Finally, the entire RF input and IF circuit portion of the main PC board is enclosed in a compartmentalized shield,

which reduces unintended coupling between stages. In particular, it reduces noise pickup from the CPU and spurious products from the Local Oscillator VCO's. These features, while not visible to the user, all contribute to making the BC-9000 an engineering masterpiece.

One area of design where Uniden continues to fail, evident in both the BC-9000 and BC-8500, is in providing adequate heat sinking for the primary voltage regulator transistors and IC's. In particular with the BC-9000, I'm referring to IC-1 and transistor Q-304. Both of these devices operate at very high temperatures, which greatly increases their chances of failing, and would seem to threaten the long term reliability of the operation of the BC-9000. It is highly recommended that these devices be fitted with at least snap-on or screw-on heat sinks for TO-220 case-style semiconductors. An even better approach would be to have a knowledgeable technician remount these devices to the main chassis for better heat dissipation. This should greatly improve the chances of a BC-9000 operating trouble free for a long, long time.

Restoring 869 - 894 MHz reception In The BC-9000

One very simple modification that many folks may want to incorporate in their BC-9000 is restoring reception of frequencies across the 869 - 894 MHz range. This is not possible by changing the configuration of any diodes or jumpers near the CPU IC, as was the case with many older scanners. It can be done very effectively by what may be referred to as "enhanced image reception." I figured what was needed was to find a frequency, or frequency range, to which the BC-9000 could be programmed that, when mixed with signals in the desired 869 - 894 MHz range, would produce a difference equal to one of the BC-9000's selectable 1st IF frequencies. I found that when the BC-9000 was tuned across the 360.24 - 385.17 MHz range, the radio's synthesizer produced an LO (Local Oscillator) signal over a range of 614. 64 - 639. 57 MHz, which could be used very effectively to receive 869 - 894 MHz.

To examine this a bit closer, when the radio is tuned to 360.24 MHz, the radio's synthesizer produces a signal on 614.64 MHz. When this is mixed with a desired receive signal on 360.24 MHz, one of the "new" signal products generated is a frequency of 254.4 MHz (614.64 - 360.24= 254.4). 254.4 MHz is one of the BC-9000's IF (or Intermediate Frequency) stages that all signals of different frequencies are converted to as part of the receive process.

That same 614.64 MHz synthesizer (LO) signal, if allowed to mix with a signal on 869.04 MHz, would also produce the same usable 254.4 MHz IF "product" signal (869.04 - 614.64= 254.4). Since the BC-9000 is such a well-designed receiver, employing very good filtering in its receive-signal input section or "front end," for the desired 800 MHz reception to occur we must help things along a bit. This is a lot easier than you might think. All that we need to do is to swap two leads that carry logic control signals that activate a pair of the filters used in the radio's "front end" or receive-signal input circuit.

With the aid of the service manual for the BC-9000, identify transistor Q4. Q4 is used to control activation of the receive-signal input filter used during reception of 760 - 1300 MHz. Also locate transistor Q5. This is used to activate the filter used when the BC-9000 is set to receive a frequency over a range of 311 - 550 MHz. In order to receive signals in the 880 MHz band we need to manually turn ON the filter that permits reception of signals in the 760 - 1300 MHz range. This is controlled by transistor Q4. And since the radio will be set to receive signals in the 370 MHz area, we also want to shut OFF the filter controlled by transistor Q5 that would normally be active and could permit inadvertent reception of signals on frequencies the BC-9000 shows on it's display.

What we need to do is cut the printed circuit (PC) trace that goes to the Base lead(s) of transistors Q4 and Q5. The base lead is located on the lower left corner of the transistors. See diagram 1. This is also illustrated in the Semiconductor Lead Identification section of the service manual. Transistors Q4 and Q5 are located on the BC-9000's main PC board near the front left corner. Try and cut the PC traces as closely as possible to the transistor, being VERY careful not to damage the lead of the transistor itself. See diagram 2. Be sure and employ good lighting in your work area and use a sharp hobby knife to do the cutting. Be VERY careful not to damage other printed circuit traces. Be sure and remove any debris from inside of the radio when finished.

Now look at the DPDT (Double Pole, Double Throw) switch circuit shown in diagram 3. You will need to solder a lead from the switch on to the base leads of both transistors. Also, a short distance back from each transistor base lead, on the cut, "open," side of the PC trace, is a small circular PC pad. You will need to solder a wire from the switch to these points as well.

When the switch is in one position, the transistors are activated normally. When the switch is set the other way, transistor Q4 is activated if a frequency in the 360 MHz area is dialed in on the 900's display. Q4, in turn, switches ON the filter that passes signals in the 800 MHz band to pass into the BC-9000's mixer circuit, permitting various signals found in the otherwise blocked 869 - 894 MHz band to be heard when a range of 360.24 - 385.15 MHz is tuned on the BC-

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9000's dial.

There are a couple of ways to configure the DPDT switch used in this conversion. You can use a regular DPDT toggle switch, mounted through the hole for the mobile mounting bracket on the left side of the case. While this is simple, you need to cut a small wedge from the upper part of the case in order to get it to fit over the switch. Another way, that may be more cosmetically appealing, is to try this: Use a DPDT relay in the same way you would use a switch. Use the otherwise unneeded "Tuning Lock" switch on the rear of the BC-9000's case to complete a circuit path to ground from one side of a relay coil. Cut the small PC trace that goes from the switch up to the CPU IC. This isolates one half of the switch. The other half will still be tied to the radio's ground. Connect a wire from the isolated half of the switch up to one side of the coil of a small relay. The relay can be mounted along the left side of the main board, near transistors Q4 and Q5, using a piece of double-sided, adhesive foam tape. Be sure to select a relay that has a coil specified for 12 volt operation. The other coil connection on the relay can be tied to the switched side of the main DC power connection. To do this, locate the group of wires that connects from the ON-OFF/volume control and squelch control and goes to the main PC board. The wires attach to the main board using a 7-pin connector. The wire furthest to the right, when looking at the connector from the front of the radio, carries switched 12 volts DC. Connect a lead wire from the second coil terminal on the relay, over to this point. Without disturbing the connector or the other wires, splice a connection between the wire from the relay and the wire on the far right side of the connector. When the Lock switch is closed, the relay coil will be energized.

Operation

When receiving signals in the 869.04 - 893.97 MHz band, you will most likely need to set the BC-9000 to Narrow FM mode, something that requires an extra modification step with the BC-8500. Be sure to set the tuning step rate to 5 KHz. While this isn't the most efficient, it does provide for exact "on channel" tuning. Also, you may find it easier to listen to stations in this range by using the Hi-Cut audio filter function of the BC-9000. This reduces the high frequency content of the received audio, as most signals in the 869 - 894 MHz range carry a 6 KHz audio tone on them. What was also a pleasant surprise, when doing initial performance tests of this modification, it was noted that the BC-9000's squelch was almost completely immune to the special types of "data" transmissions that inhabit the 879 - 881 MHz part of this band. Measurements indicate that the BC-9000's sensitivity is just as good at receiving signals when in the "converted" mode from the blocked portion of the 800 MHz band as it is when normally receiving from all other parts of the 800 - 950 MHz band, approximately .5 microvolts.

Calibration

If you wish to know the actual frequency the BC-9000 is receiving when in the "converted" mode, all you need do is add 508.8 (2 x 254.4 MHz, the 1st IF frequency) to the 300 MHz frequency as shown on the BC-9000's display.

Additional Assistance

For those who might want an extra hand in doing this mod, C. Crane Co. (1-800-522-8863) is reportedly working on an instructional video. It is unknown what the exact mod procedure described in the video will be and how it will differ from the procedure we just described, but the basic "hot wiring" of transistor Q4 will still be the end goal. And while it is not known for sure at this time, the folks at Cellular Security Group may be adding this mod for the BC-9000 to their existing modifications lineup. Call them at 508-281-8892.

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BEGINNER'S CORNER

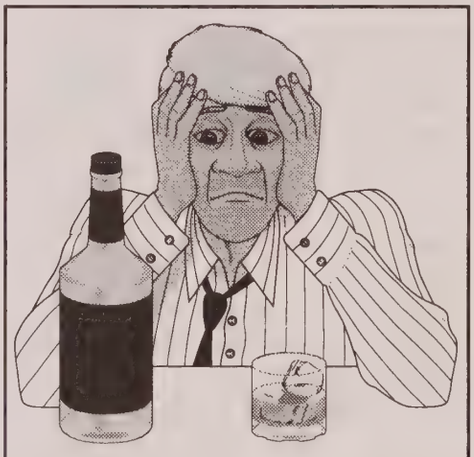
by Michael Martin

That New Scanner

You finally bought that scanner you always wanted. You did months of research, read all the scanner magazines, talked to everyone you knew who had one, even managed to get someone to loan you theirs for a couple of weeks. You bought that top-of-the-line radio that you know will look great on the counter top, or will it be your headboard, maybe even in the bookcase. Wow, you hadn't thought about that. Well, you'll worry about where it goes later. First thing you want to do is just get it home and fire it up.

Believe it or not, one of the best things to do before you do anything with your new scanner, is to read the manual! Sure, you have read everything there is to read about your scanner, but you haven't read the actual manual that comes with it. Yes, the manual. It's that little booklet that comes in the box along with your new scanner. Even though you THINK you know everything there is to know about your new equipment, read it anyway. Just like a computer program, your scanner may now be version 1.1 and may have added or deleted something that you may not know!

Ok, you've read the manual and know EVERYTHING there is to know about your scanner. Well, lets hook it up and get listening. Now if you've done your homework and spent A LOT of money on your new equipment, you know about surge protectors. That's the box you plug into the wall and it has anywhere from 1 to 6 outlets in it, kind of like a power strip. We all know that the local power company will supply a perfect 120 volts AC current, right? If you believe that, wake me when Elvis gets here! In non-technical terms, a voltage spike is when the power coming out of your wall outlet greatly exceeds 120 volts and anything hooked to it when it happens becomes well-done toast. You will know when it happens, something in the house smells real funny, and I'm not talking about the litter box! Surge protectors help prevent this phenomenon. Within milliseconds (and that's fast), the surge protector will detect the increase in voltage and automatically shut down, thus preventing damage to your expensive toys (that's what my wife calls them!). As with anything else you buy, you get what you pay for. Don't be lulled into buying the super bargain surge protector for $19.95, it just won't do what you want. Some companies market simple power strips as surge protectors, but in fact, they are



Going to drive me to drink.

little more than extension cords with an on-off switch. Also, check out the warranty that comes with it. Quality, higher-priced surge protectors not only guarantee they will work, but expressly state that if they fail, they will TOTALLY REPLACE whatever got fried due to the failure of their equipment! That's a guarantee I can live with!

Now you have figured out exactly where you want to place your scanner. Or have you? Hmmmm, how about on the desk right in front of the window that gets lots of sunlight? I don't think so. Two good reasons. It's 98 degrees outside, a voltage spike hits your house and your surge protector worked and shut down. But you don't have a surge protector on your air conditioner. You house starts getting hot and that sun light is really beaming in, right on that plastic case your scanner is built in. You come home after a long day at work and realize the power is out at home so you go over to your scanner to tune in the local power company, only to find a big blob of plastic, chips, resistors and knobs. Not good. Well, at least the surge protector worked!

Oh, yeah, the second reason? Remember that call you heard on your scanner the night before about people breaking into houses and stealing things? Well, let's put it this way, you WON'T be hearing the call to your house for the police to investigate that broken window now, will you? After all that, you've bought another scanner to replace the first one. No hot window for it! You look around your house and notice that your scanner will fit perfectly in your stereo console and all you have to do is hook it up to the speakers and you can really hear it. Slide it in, power it up and it sounds great coming through the stereo speakers! And it looks real good there, the tape deck fits perfectly on top of it and the display is even the same color. You figure since you listen to your scanner all the time, you just leave it on 24 hours a day, 7 days a week.

You've let it stay on for weeks at a time and notice one day, there is nothing coming out of it. It's sitting on a frequency, but nothing is coming out of the speakers. You go to check the volume and just about burn your fingers on the front knobs. As a matter of fact, the entire scanner is hot to touch. You unplug the power cord and wait about a half hour for it to cool down and you slide it out. You take a sniff of the scanner and it smells kinda funky. The smell is actually coming out of those slots on the top of the case. Uh-oh. Those slots are there for a real important

reason. That's how the heat from the scanner is released, and when you placed that tape deck on top of it, the heat stayed inside of it and you have now just melted the circuit board. You visit your local scanner distributor for the third time in as many months to buy yet another one. This time, you DO read the manual from cover to cover.

You hook up your surge protector, that has worked flawlessly, place the scanner in a well ventilated area and out of the range of direct sunlight and prying eyes. The only thing that you are dissatisfied with is the reception of distant signals. How can I make it sound better? Then you remember something you read in that thing that came with one of your scanners. Oh, yeah, the manual. It said OUTSIDE ANTENNA. You go down to your neighborhood Radio Shack or other electronics dealer and buy one of the best antennas possible. It must be real good cause it cost a lot of money. The dealer starts to tell you what you need to know about your purchase, but you hurry out the door quickly so you can get home and have fun. As soon as you get home, you rip the package apart and put the antenna together. Hey, this is simple, just screw this into that and, viola, it's ready to go. You know from reading all those magazines that the higher the antenna, the better the reception. Well, you got lots of good coax, you know cause you paid lots of money for it as well, so, you figure you can raise it above your roof about 30 feet with all the conduit you have in your back yard. You get that hammer and nails out and start tacking it up on the side of your house until it's about 30 or so feet above the roof level. The coax is hooked up to it and you run it into the house and plug it in the back of the radio. Wow, what reception! You are hearing signals you've never heard before! The mobile units of the non-repeater-using police department are coming in loud and clear. Even the fast food joint a half mile down the road is being picked up.

The next few weeks, you listen to everything possible. You hear the local fire department put out an all-stations tone. Severe weather is on the way. Severe thunderstorms are coming in. Wow, you think to yourself, this is great. I'll be able to hear all kinds of radio calls with this storm coming in. About a hour later, you start to hear the thunder booming in the distance. I'll just sit right next to my radio and listen to what's happening! Beep Beep Beep, goes the radio's speaker. Fire call. Lightning strike at a house about a mile away. You hear the units responding. They get to the scene and you hear the report come back that the house took a hit and the attic is on fire. Man, this is just as good as being there. KABOOM! Wow, that was close. That storm is really picking up. Lighting and thunder are all around you now. Suddenly, you think to yourself, something doesn't feel right. You get this feeling of someone lightly patting you on the side of your face. You shake the cob webs out of your head and you open your eyes. There, kneeling over you, is one of the local firefighters staring down at you, his lips moving like he is saying something, but all you hear is a loud ringing in your head. A minute later the ringing starts to get quieter, and only then, can you hear the firefighter. "You ok?" he says. You focus your eyes on him and try to speak, but your voice is real raspy. "You just stay where you are, buddy, you'll be ok. It looks like your scanner took a lightning strike and blew up" he tells you. About this time everything starts coming back. You remember how close the storm was getting and then there was that bright flash of light, and then the next thing you know, you were flat on your back looking up to the firefighter. "Buddy, you're going to be ok, but your scanner is definitely out of the picture. Looks like the lightning probably hit your outside antenna and came down the wire and got you. You did have that thing grounded, didn't you?"

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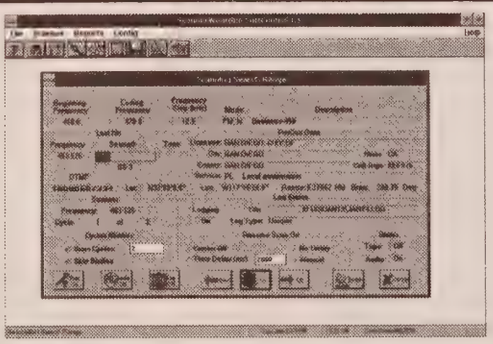

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PUBLIC SAFETY COMMUNICATIONS

by Ed Muro

Police Monitoring

The first thing that pops into the heads of most radio hobbyists purchasing a scanner is the ability to listen to their local police department. Usually this seems to be the starting point from which all other scanner interests stem.

According to federal regulations any territory, possession, state, county, city, town, and similar governmental entity, including a governmental institution authorized by law to provide police protection, is eligible to hold authorizations in the Police Radio Service to operate radio stations for the transmissions of communications essential to official police activities of the licensee.

Police licensees which are located in close proximity to the borders of the United States may even be authorized to communicate internationally with special permission.

Monitoring police radio communications will give you the inside scoop on what's going on in your own neighborhood. You will often hear things that never make the papers or nightly news. While I was writing this column I got to hear three local police units using "LoJack" to track a stolen vehicle. It was quite interesting, and after about ten minutes, they found the car parked.

In all police agencies, clear instructions should be in place to ensure that the headquarters transmitter is in charge of the airwaves and may order other units silenced for priority messages, regardless of the rank of the persons in the field.

There are many fine frequency directories on the market that should provide you with a wealth of information for finding the frequencies in use in your area. Also, don't forget about regional scanner clubs; often the best source of information is from other local hobbyists.

When I first started out in this hobby in the mid-seventies, armed with my copy of Police Call and my 16-channel Regency scanner, I found that there were a couple of small communities in my area that had no listings for their police department. After doing some research and talking with other local hobbyists I found out that often times small communities may be licensed in the Local Government Radio Service.

Composite List of Frequencies to Search

37.02 - 37.42	153.740 - 156.240
39.02 - 39.98	158.730 - 159.480
42.02 - 42.94	453.025 - 453.975
44.62 - 46.58	460.025 - 460.625

plus, in the N.Y. area, 470.00 - 488.00, in L.A., 470 - 476 and in particular, 482 - 488. In Chicago, 470 - 482 and in San Francisco 482 - 494 MHz.

Also, many departments are switching over to 800 MHz trunked systems these days.

As a new feature of this column every month I would like to include a department profile. So if you want to see your favorite Police, Fire, or EMS department in print send in a bio of the department, including it's history and radio frequencies. It doesn't matter how large or small the department is. I am interested in getting a true cross section of our hobby. Send in whatever you have, it doesn't have to be too comprehensive.

This month I will profile none other than the largest police department in the country, New York's Finest, the Police Department of the City of New York - otherwise known as N.Y.P.D.

The largest police department in the nation has more personnel than many armies of the world. Several sources state that the department has between 31,000 and 33,000 uniformed officers and over 9,000 civilian employees. A recent Time Magazine article stated the department strength was near 33,000. My estimate is somewhere near 38,000 because in an effort to streamline the city government, the seventh largest police department in the nation, The New York City Transit Police Department, has just been disbanded and it's personnel and equipment have been reassigned to the N.Y.P.D.

The current administration is a pro-police administration, most likely due to the fact that the mayor is a former federal prosecutor. The mayor is often accused of meddling in the affairs of the department that should be left in the hands of the commissioner. There are many changes taking place in the department, for several reasons. The most obvious reason is financial. The department has been plagued with scandals and corruption, to a degree that hasn't been seen since the days of the Knapp commission. This is due mostly to poor management by the previous administration.

Currently, there are five bureaus in the department, each headed by a bureau chief. There is the Patrol Bureau, the Detective Bureau, the newly formed Transit Bureau, the Organized Crime Bureau and the Personnel Bureau.

Obviously, the largest bureau is the Patrol Bureau, which is broken down into eight borough commands, which are then broken down into precincts.

One of the more interesting and glamorous details in the department is the Special Operations Division (SOD). This division includes the Highway Patrol Units, the K-9 units, the Mounted Unit, the Harbor Patrol, the Aviation Unit, the Street Crime Unit (SCU), the famed Emergency Service Unit (ESU) and several smaller units.

N.Y.P.D. Radio Frequencies

The precinct frequencies are too numerous to list, therefore I suggest you consult a local frequency directory or search between 476.000 - 477.500 MHz. The band from 482 to 488 Mhz was also just recently added, exclusively for public safety agencies.

Specialized Frequencies

If something big is going down in the city, the one catch-all frequency to always monitor is 470.8375 - SOD 1. On this frequency you will find E.S.U., Highway and Harbor. In addition, all signal 10-13's (officer needs assistance) are re-broadcast on this channel.

Citywide 1	476.7375 (Manhattan & Bronx)
Citywide 2	476.6875 (Queens & Brooklyn)
Citywide 3	470.8625
Detectives	470.7625
"	471.1375
"	470.6375
S.O.D.	470.6875
"	470.6625

Transit Bureau	
Manhattan	160.905
Bronx	160.500
Brooklyn	160.305
Queens	160.695

There is one more major police department in the city, the New York City Housing Police. This department is responsible for patrolling the city's public housing projects. There are about 2,500 members of this department. The city also has plans to consolidate this department into the N.Y.P.D., and it's units are currently being dispatched on regular N.Y.P.D. precinct radio frequencies.

You should now be armed with enough info to hear all the action in the Big Apple.

Please feel free to write in with any department profiles, frequency info, questions, comments, or suggestions to: Eddie Muro, P.O. Box 308, Cedarhurst, N.Y. 11516-0308 or write to me via the Internet at: nyo41ed@aol.com.

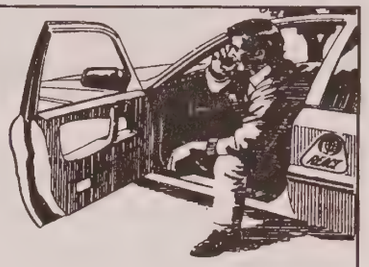
Mailbag:

Mike writes in with a PL code for the Suffolk County, New York Police Department. It is 146.2. The department is planning on switching to an 800 Mhz system later this year. Stay tuned for updates.

Computer Info:

The America On-line (AOL) computer network sponsors a live, on-line conference every Thursday night around 8:30 PM Eastern Time in the Ham Radio Club conference room. It is a great place to meet other scanner listeners and exchange useful information. From time to time, there are even guest speakers that lecture of various topics. Several weeks ago Gene Hughes (of Police Call) was a very informative guest speaker.

USSN



When seconds count, *REACT*. needs you...

...to summon help for an injured motorists, an elderly woman trapped in a fire, a trucker stranded in a blizzard, a drowning child!

As a REACT volunteer CB radio monitor you may be the only communications life-line for someone in serious trouble. You relay messages from those desperate for help to police or other emergency services.

Your REACT Team will also use CB and other radio services to provide safety communications for events like parades, marathons and even balloon races. The fellowship with other REACT members at Team meetings and annual conventions is an added bonus.

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Add a New, Exciting Challenge to Your Life. Help Save Lives and Property!

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P.O. Box 998, Wichita, KS 67201

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NEW!! **SCANCAT GOLD** IMPROVED!
Since 1989, The Recognized Leader in Computer Control

Once you use SCANCAT with YOUR radio, you'll NEVER use your radio again WITHOUT SCANCAT!

SCANCAT supports most radios by:
AOR, DRAKE, KENWOOD, ICOM, YAESU and JRC (NRD)
Plus PRO-2005,6 & 2035/OS456, Lowe HF-150, and Watkins-Johnson HF-1000

SCANCAT 6.0 FEATURES

- Search between any 2 frequencies.
- Search by ANY increment.
- Create Disk files.
- Import from most text formats to a working SCANCAT file.
- Log found frequencies to files while scanning.
- Scan Disk Files Frequencies.
- Spectrum Analysis to Screen OR Printer.

SCANCAT - GOLD FEATURES

We simply don't have the space to tell you ALL the new GOLD features
SCANCAT-GOLD includes ALL ABOVE 6.0 FEATURES PLUS

- Link up to 15 frequency disk files.
- D-BASE IMPORT w/DUPLICATE filters.
- Scan HF & VHF Icom's simultaneously.
- PRINT to ANY printer, or Disk File.
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PLUS - POWERFUL COMMERCIAL FEATURES SUCH AS:

- Demographic search for frequency co-ordination and 2-way Usage Analysis.
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- UNLIMITED file sizes with our exclusive SCANCAT filing method.
- Exclusive "MACRO" control by frequency of Dwell, Hang, Resume. Sig. Treshhold and even 6 separate programmable, audible alarms.
- Command line options for TIMED ON/OFF (Unattended) logging/searches.

*****SCANCAT IS NOT COPY PROTECTED —USE ON AS MANY COMPUTERS AS YOU NEED *****
SCANCAT will run on virtually ANY 640K computer, EVEN HP-100XLT PALMTOP!

SCANCAT comes ready to run ALL supports radios within only ONE program. SCANCAT makes your listening hobby a breeze! Plus, the included SCANPORT allows you to convert your favorite BBS, D Base or Text Files to a running SCANCAT file: 100+ Page manual included. Requires a 640K MS-DOS computer w/RS-232C serial port - hard disk recommended. Manufacturer's Interface not included.

CALL or WRITE for FREE information or our $5.00 FULLY OPERATIONAL DEMO DISK (includes shipping/handling). ORDER NOW & RECEIVE as a BONUS, FOUR SCANCAT FREQUENCY FILES!

SCANCAT GOLD	**$94.95**	**UPGRADE**	**$24.95**
SCANCAT 6.0	**$79.95**	**from any version**	
SQUELCH DETECT CABLES	**$24.95**	*PLUS $5.00 SHIPPING &*	
OPTOScan456 kit $299 ($10 s/h)		*HANDLING $7.50 FOREIGN*	

Order OS456 board & SCANCAT-GOLD combined and receive our $15 frequency disk. **FREE!**
Order direct or contact your favorite dealer

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Nitetime BBS (SCANCAT File Area) (318) 631-3082 (7 p.m. - 6 a.m. Central)
U.S. Scanner Readers Only - FREE Starter Freq. Disk of 10 Files - With Your Order

Scanners/CB/Weather Stations

New Scanner Products Available

Now it's easy to purchase communications, emergency management supplies, weather forecasting equipment and more directly from Communications Electronics Inc. Your **free fax-on-demand catalog** including unadvertised specials is instantly available by calling 313-663-8888 from your fax machine.

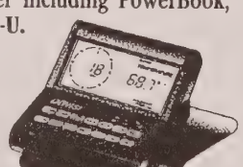
Bearcat Scanners

Monitor police, fire, marine, aircraft, emergency medical transmissions and more with a Bearcat scanner.

Bearcat 9000XLT-U base/mobile $369.95
Bearcat 3000XLT-U handheld $344.95
Bearcat 890XLT-U base/mobile/weather alert $227.95
Bearcat 860XLT-U 100 channel base $154.95
Bearcat 760XLT-U base/mobile $189.95
Bearcat 700A-U information mobile $144.95
Bearcat 560XLA-U base/mobile $76.95
Bearcat 220XLT-U handheld/SPECIAL $207.95
Bearcat 178XLT-U base with weather alert $124.95
Sportcat 150-U handheld with 800 MHz. $158.95
Bearcat 148XLT-U base with weather alert $83.95
Bearcat 120XLT-U handheld $129.95
Bearcat 80XLT-U handheld with 800 MHz. $144.95
Bearcat BCT7-U information mobile $168.95

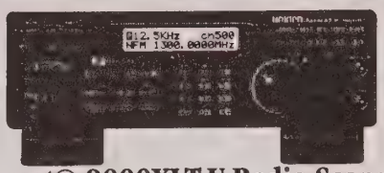
Weather Stations

Now you can be your own weather reporter with the Davis Weather Monitor II. Our top-of-the-line weather station combines the most advanced weather monitoring technologies available into one incredible package. Glance at the display, and see wind direction and wind speed on the compass rose. Check the barometric trend arrow to see if the pressure is rising or falling. Push a button, and read indoor and outdoor temperature, wind chill, humidity and barometric pressure. Our package deal includes the new ultra high resolution 1/100 inch rain collector part **#7852-U**, and the external temperature/humidity sensor, part **#7859-U**. The package deal is order **#DAV1-U** for $479.95 plus $15.00 shipping. If you have a personal computer, when you order the optional Weatherlink computer software for $139.95, you'll have a powerful computerized weather station at an incredible price. For the IBM PC or equivalent order part **#7862-U**. Apple Mac Plus or higher including PowerBook, order part number **7866-U**.



The Weather Monitor II (7440) comes complete with anemometer with 40 feet of cable, external temperature sensor with 25 feet of cable, function box with 8 feet of cable, AC-power adapter, detailed instruction booklet and one year limited factory warranty.

Davis Weather Monitor II **7440-U** $334.95
Davis Weather Wizard III **7425-U** $154.95
Davis Perception II Indoor stand-alone weather monitor **7400-U** .. $124.95
Davis Remote Display Unit **7815-U** $84.95
Davis Rain Collector II 0.01" **7852-U** $59.95
Davis Rain Collector II 0.2 mm **7852METRIC-U** $59.95
Davis Rain Gauge Stand-alone 0.01" **7520-U** $79.95
External Temperature/Humidity Sensor **7859-U** $99.95
Davis Anemometer Mast Mount **7890-U** $15.95
Weatherlink Software for IBM PC-Version 3.0 **7862-U** $139.95
Weatherlink Software for Apple-Version 3.0 **7866-U** $139.95
4-Conductor 40' (12.2 m) extension cable **7876-U** $17.95
6-Conductor 40' (12.2 m) extension cable **7878-U** $21.95
8-Conductor 25' (7.6 m) junction box cable **7880-U** $14.95
8-Conductor 50' (15.2 m) junction box cable **7881-U** $24.95
8-Conductor 100' (30.5 m) junction box cable **7882-U** $44.95
Modem Adaptor 25-Uin for communications port **7870-U** $9.95
Car/Boat/RV Lighter Power Cord **7873-U** $9.95
2400 baud modem for Weatherlink **MEXT-U** $29.95
Talking weather card - Call 313-994-9000 for demo **IT1-U** $474.95
Weatherlink language disks: Française, Deutsche, Italiana, Española **7863-U** $24.95
Barometer, Indoor Hygrometer & Thermometer, Clock/Calendar **BA888-U** . $89.95
Indoor-Outdoor Thermometer/Barometer & Hygrometer by OSI **BA213-U** .. $79.95
Thermometer with transparent calender & clock display by OSI **TC188-U** .. $19.95
Thermometer with AM/FM clock radio by Oregon Scientific **CR388-U** $39.95
Indoor/Outdoor Thermometer with Jumbo Display by OSI **JB880EX-U** $24.95



Bearcat® 9000XLT-U Radio Scanner

Mfg. suggested list price $769.95/CE Special $369.95
500 Channels · 20 banks · Alpha numeric display
Turbo Scan · VFO Control · 10 Priority channels
Auto Store · Auto Recording · Reception counter
Frequency step resolution 5, 12.5 & 25 KHz.
Size: 10-1/2" Wide x 7-1/2" Deep x 3-3/8" High

Frequency Coverage:
25.000-549.995 MHz., 760.000-823.995 MHz., 849.0125-868.995 MHz., 894.0125-1,300.000 MHz.

The Bearcat 9000XLT gives you pure scanning satisfaction with amazing features like TurboSearch™ to search VHF channels at 300 steps per second. This base and moble scanner is ideal for surveillance professionals because it has a selectable attenuator to help eliminate annoying intermodulation from adjacent frequencies in highly populated areas and selectable AM, Wide FM and Narrow FM modes that allow you to change the default receiving mode of the BC9000XLT. Other features include ***Auto Store*** - Automatically stores all active frequencies within the specified bank(s). ***Auto Recording*** - This feature lets you record channel activity from the scanner onto a tape recorder. **Hi-Cut filter** to help eliminate unwanted static noise. You can even get an optional ***CTCSS Tone Board*** (Continuous Tone Control Squelch System) which allows the squelch to be broken during scanning only when a correct CTCSS tone is received. For maximum scanning enjoyment, order the following optional accessories: **PS001** Cigarette lighter power cord for temporary operation from your vehicle's cigarette lighter $14.95; **PS002** DC power cord - enables permanent operation from your vehicle's fuse box $14.95; **MB001** Mobile mounting bracket $14.95; **BC005** CTCSS Tone Board $54.95; **EX711** External speaker with mounting bracket & 10 feet of cable with plug attached $19.95. The BC9000XLT comes with AC adapter, telescopic antenna, owner's manual and one year limited warranty from Uniden.

CB/GMRS Radios

The Maxon GMRS 210+3 transceiver is a PLL synthesized 10 channel radio on General Mobile Radio Service frequencies. It's the ideal radio for long range communications. Two repeater channels are programmable and one channel (462.675 MHz.) is set aside for emergency and safety communications. The seven remaining interstitial frequencies 462.5625, 462.5875, 462.6125, 462.6375, 462.6875 & 462.7125 MHz are all-purpose GMRS radio channels. 2 watts of RF power for exceptional transmitting range. Up to 5 watts when used with the supplied 12 volt vehicular DC power cord. CTCSS built-in. Includes 450mAh Ni-cad rechargeable battery pack, AC/DC wall battery charger, owner's manual, FCC license application, belt clip, antenna. Call 1-800-USA-SCAN to order.

Maxon GMRS210+3-U GMRS transceiver $188.95
SPECIAL Buy 2 or more GMR210+3 at $174.95 each
WTA3DT-U Ni-cad battery charger for WTA6GN4 & WTA6GN2 .. $58.95
WTA6GN4-U Ni-cad pack gives 4 watts power with 210+3 ..... $55.95
WTA6GN2-U Ni-cad pack gives 2 watts power with 210+3 ..... $29.95
WTA6GA-U Alkaline battery case - requires 6 AA batteries $9.95
WTA8GA-U Carrying case for Maxon GMRS210+3 ..... $29.95
WTA10G-U Speaker/microphone for Maxon GMRS210+3 ..... $18.95
WTA13G-U Push-to-talk mini-VOX headset for GMRS210+3 ..... $47.95
WTA14-U Antenna adaptor/screw-in male to BNC connector $9.95
ANT4GM-U 1/4 wave UHF magnetic mount mobile antenna $29.95
Cobra 2010GTLWX-U SSB base with weather alert† $379.95
Cobra 148FGTL-U CB with frequency counter $209.95
Cobra 29LTDWX-U CB with weather alert $114.95
Cobra HH40-U CB 40 channel handheld transceiver $99.95
Ranger RCI2950-U 25 watt 10 meter transceiver $239.95
Uniden GMR100-U GMRS handheld transceiver $144.95
Uniden WASHINGTON-U SSB CB Base († $25.00 shipping) $199.95
Uniden GRANTXL-U SSB CB Mobile $139.95
Uniden PRO538W-U CB & Weather $59.95

VHF Transceiver

RELM® WHS150-U Transceiver/SPECIAL

Mfg. suggested list price $481.67/CE price $299.95

Police and fire departments depend on the RELM WHS150 transceiver for direct two-way communications with their police, fire department, civil defense agency or ham radio repeater. The WHS150 is our most popular programmable five watt, 16 channel handheld transceiver that has built-in CTCSS, which may be programmed for any 39 standard EIA tones. Frequency range 148.000 to 174.000 MHz. Will also work 144.000-148.000 with slightly reduced performance. The full function, DTMF compatible keypad also allows for DTMF Encode/Decode and programmable ANI. Weighing only 15.5 oz., it features dealer programmable synthesized frequencies either simplex or half duplex in both 5.0 and 6.25 KHz. increments. Other features include scan list, priority channel, selectable scan delay, selectable 5 watt/1 watt power levels, liquid crystal display, time-out timer and much more. When you order the WHS150 from Communications Electronics Inc., you'll get a complete package deal including antenna, battery, belt clip and user operating instructions. Other accessories are available. A leather carrying case with swivel belt loop part **#LCWHS** is $49.95; rapid charge battery charger, part **#BCWHS** is $69.95; speaker/microphone, part **#SMWHS** is $54.95; extra ni-cad battery pack, part **#BP007** is $59.95. The radio technician maintaining your radio system must order programming instructions part **#PI150** for $18.00 to activate this radio. FCC license required for United States operation.

Other neat stuff

PH5000-U Waber 500VA/340 Watt computer uninterruptable power supply $159.95
WX70-U weather radio with National Weather Service storm alert $29.95
WB-U USA Today The Weather Book, Guide to USA weather by Jack Williams $15.95
PSUN-U Partly Sunny, Weather Junkie's Guide to Weather by Alan Fields $11.95
Grundig Yacht Boy 400-U digital portable shortwave - 40 memory $179.95
Grundig Yacht Boy 230-U portable shortwave receiver $109.95
Sangean ATS800-U portable 20 memory shortwave receiver $69.95
Sangean ATS803A-U portable shortwave w/AC adapter -- 9 memory $129.95
Sangean ATS808-U portable 45 memory shortwave receiver $129.95
Uniden EXP9200-U 900 MHz. 1 or 2 line spread spectrum cordless phone . $289.95
Uniden EXP9100-U 900 MHz. 1 line cordless spread spectrum telephone ... $224.95
Uniden EXP901-U 900 MHz. 1 line cordless analog telephone $149.95
Bogen FR3110-U Digital FAX Friday Fax-on-Demand & answering system ... $399.95
Bogen FR3020-U memory module for Fax Friday/up to 36 minutes $99.95
Bogen FR2000-U Digital two-line voice mail & answering machine $279.95
Bogen FR0018-U memory module, doubles recording time to 36 minutes $79.95
FANS P161P-U 60 name/number caller ID, unwanted call blocker, paging .. $149.95
SNI ID200-U Bouncer name/number caller ID, call reject, forward $89.95
ICOM GP22-U handheld global positioning system (GPS) $489.95
RELM WHS150-U VHF handheld 5 watt, 16 channel transceiver $299.95
RELM RH256NB-U VHF 25 watt, 16 channel synthesized transceiver $289.95
Ranger RCI2950-U 25 watt 10 meter ham radio transceiver $239.95
Cobra RDL712SW-U Safety Alert & Super Wideband Laser/Radar receiver .. $139.95
Uniden LRD6399SW-U Super Wideband Laser/Radar receiver-VG2 protection $99.95
ANTK-U VHF scanner/VHF transmitting antenna PL259 connector $29.95
ANTMMBNC-U magnet mount scanner antenna w/ BNC connector $29.95
ANTMMMOT-U magnet mount scan antenna w/Motorola plug $29.95
ANTMMPL-U magnet mount scan antenna with PL259 connector $29.95
ANTSGBNC-U glass mount scanner antenna with BNC connector $29.95
ANTSGMOT-U glass mount scanner antenna with Motorola jack $29.95

Buy with confidence

It's easy to order from us. **Mail orders to:** Communications Electronics Inc., P.O. Box 1045, Ann Arbor, Michigan 48106 U.S.A. Add $15.00 per radio product or weather station for U.P.S. ground shipping and handling in the continental U.S.A unless otherwise stated. Add $10.00 shipping for all accessories and publications. Add $10.00 shipping per antenna. For Canada, Puerto Rico, Hawaii, Alaska, Guam, P.O. Box, or APO/FPO delivery, shipping charges are two times continental U.S. rates. Michigan residents add state sales tax. No COD's. Satisfaction guaranteed or return item in 31 days for refund, less shipping. 10% surcharge for net 10 billing to qualified accounts. All sales are subject to availability, acceptance and verification. Prices, terms and specifications are subject to change without notice. We welcome your Discover, Visa, American Express or MasterCard. Call anytime 1-800-USA-SCAN or 800-872-7226 to order toll-free. Call 313-996-8888 if outside the U.S.A. FAX anytime, dial 313-663-8888. For technical assistance, call our technical support hotline for $2.00 per minute at 1-900-555-SCAN. Dealer and international inquiries invited. Dial 313-663-8888 for fax-on-demand info.

Price schedule effective 9/3/95 AD #090395GEN Copyright © 1995 Communications Electronics Inc.

For credit card orders call

1-800-USA-SCAN

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Emergency Operations Center
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For information call 313-996-8888 or FAX 313-663-8888

FREQUENCY FORUM

by O.E. Simonson

June FCC Updates

The information in this column is raw FCC Data and, as such, contains duplications and typos.

Listed below are **Public Safety** licenses that have been recently issued by the Federal Communications Commission. Note that many of these may be licenses for additional transmitter sites, expired licenses, and so forth, and may not necessarily be "new" frequencies. The services represented are PF - Fire, PH - Highway, PL - Local Government, PM - Emergency Medical, PO - Forestry, PP - Police, PS - Special Emergency, GF - 866 Conventional Public Safety (National Plan), GP - Conventional Public Safety, YF - 866 Public Safety Trunking (National Plan), YP - Trunked Public Safety, GA - 900 MHz Conventional Public Safety, YA - 900 MHz Trunked Public Safety. There may be listings for municipalities that have licensees in other services also, such as the Power Radio Service - IW.

City	Licensee	Callsign	Freq	Sr.
	Alabama			
	MOBILE, COUNTY OF	WNUX634	855.2125	YP
	MOBILE, COUNTY OF	WNUX634	855.2375	YP
	MOBILE, COUNTY OF	WNUX634	856.2375	YP
	MOBILE, COUNTY OF	WNUX634	857.2375	YP
	MOBILE, COUNTY OF	WNUX634	857.2625	YP
	MOBILE, COUNTY OF	WNUX634	857.9875	YP
	MOBILE, COUNTY OF	WNUX634	858.2375	YP
	MOBILE, COUNTY OF	WNUX634	858.9875	YP
	MOBILE, COUNTY OF	WNUX634	859.2375	YP
	MOBILE, COUNTY OF	WNUX634	859.4625	YP
	MOBILE, COUNTY OF	WNUX634	859.7625	YP
	MOBILE, COUNTY OF	WNUX634	860.2375	YP
	MOBILE, COUNTY OF	WNUX634	860.7625	YP
	TALLAPOOSA, COUNTY OF	KXU311	151.2350	PP
	TALLAPOOSA, COUNTY OF	KXU311	154.6500	PP
	TALLAPOOSA, COUNTY OF	KXU311	154.8150	PP
	TALLAPOOSA, COUNTY OF	KXU311	155.0100	PP
	TALLAPOOSA, COUNTY OF	KXU311	156.0300	PP
ADAMSVILLE	GRAYSVILLE, CITY OF	WPHK656	173.3962	PL
ADAMSVILLE	GRAYSVILLE, CITY OF	WPHM460	173.3962	PL
ALEXANDER	TALLAPOOSA, COUNTY OF	KXU311	154.8150	PP
ALEXANDER	TALLAPOOSA, COUNTY OF	KXU311	156.0300	PP
ARDMORE	ARDMORE, CITY OF	KXP242	460.2250	PP
BAYOU LA B	MOBILE, COUNTY OF	WNUX634	855.2125	YP
BAYOU LA B	MOBILE, COUNTY OF	WNUX634	855.2375	YP
CARLOWVILL	SOUTH DALLAS COUNTY WATER AUTH	WPHH526	173.3625	PL
CRUMLEY CH	GRAYSVILLE, CITY OF	WPHM460	173.3962	PL
DADEVILLE	TALLAPOOSA, COUNTY OF	KXU311	151.2350	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	KXU311	154.6500	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	KXU311	154.8150	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	KXU311	155.0100	PP
DADEVILLE	TALLAPOOSA, COUNTY OF	KXU311	156.0300	PP
DAPHNE	DAPHNE, CITY OF	KNIA856	155.1150	PL
DAPHNE	DAPHNE, CITY OF	KNIJ247	154.1600	PF
DAPHNE	DAPHNE, CITY OF	WNMG725	155.0100	PP
DAPHNE	DAPHNE, CITY OF	WNMG725	155.2500	PP
GRAYSVILLE	GRAYSVILLE, CITY OF	WPHK656	173.3962	PL
GRAYSVILLE	GRAYSVILLE, CITY OF	WPHM460	173.3962	PL
HILLVIEW	GRAYSVILLE, CITY OF	WPHM460	173.3962	PL
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	854.0125	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	854.0625	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	854.5375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	854.9625	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	855.2125	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	855.2375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	855.7125	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	856.2375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	856.4375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	857.2375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	857.7375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	858.4375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	859.2625	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	859.7125	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	860.2625	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	860.4375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	860.4875	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	860.7125	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	860.9375	YP
HUNTSVILLE	HUNTSVILLE, CITY OF	WPHI451	860.9875	YP
MINTER	SOUTH DALLAS COUNTY WATER AUTH	WPHH526	173.3625	PL
MOBILE	MOBILE, COUNTY OF	WNUX634	859.7625	YP
MOBILE	MOBILE, COUNTY OF	WNUX634	860.7625	YP
PHENIX CIT	PHENIX CITY, CITY OF	KCP565	155.9400	PL
PLEASANT H	SOUTH DALLAS COUNTY WATER AUTH	WPHH522	173.3625	PL
RIVERSIDE	RIVERSIDE, CITY OF	WPHH634	155.1000	PL
RUSSELLVIL	ALABAMA, STATE OF	WZX702	453.6750	PL
SARDIS	SOUTH DALLAS COUNTY WATER AUTH	WPHH522	173.3625	PL
SHEFFIELD	SHEFFIELD, CITY OF	WPHP265	452.4000	PP
SHEFFIELD	SHEFFIELD, CITY OF	WPHP265	457.4000	PP
STEVENSON	STEVENSON, TOWN OF	WPHK491	173.2100	PL
SUMITON	SUMITON AMBULANCE CO	KTH487	155.1750	PS
SYLACAUGA	SYLACAUGA, CITY OF	KXU218	154.9800	PL
TUSCALOOSA	TUSCALOOSA, CITY OF	WPGZ375	458.5250	PL
VANCE	TUSCALOOSA, CITY OF	WPGZ375	458.5250	PL
WESTWOOD	GRAYSVILLE, CITY OF	WPHK656	173.3962	PL
WESTWOOD	GRAYSVILLE, CITY OF	WPHM460	173.3962	PL
YORK	SUMTER COUNTY CIVIL DEFENSE	WNCX671	155.2200	PS
	Arkansas			
	CHICOT, COUNTY OF	WPHK486	154.7550	PP
	CRITTENDEN, COUNTY OF	WPHQ261	150.8450	PP
	CRITTENDEN, COUNTY OF	WPHQ261	153.5300	PP
	EUREKA SPRINGS, CITY OF	WNXR387	153.8900	PF
	EUREKA SPRINGS, CITY OF	WNXR387	154.3700	PF
	EUREKA SPRINGS, CITY OF	WNXR387	156.1650	PF
BENTON	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	453.1750	PM
BENTONVILL	WASHINGTON REGIONAL MEDICAL CE	KVJ682	155.1750	PS
EUREKA SPR	EUREKA SPRINGS, CITY OF	WNXR387	156.1650	PF
FAYETTEVIL	WASHINGTON REGIONAL MEDICAL CE	KVJ682	72.9800	PS
HAMBURG	ASHLEY, COUNTY OF	WNRM688	153.7550	PL
HAMBURG	ASHLEY, COUNTY OF	WNRM688	158.7750	PL
HOPE	HOPE, CITY OF	WNMH894	155.9550	PP
HOPE	HOPE, CITY OF	WNMH894	158.8650	PP
HOT SPRING	HOT SPRINGS, CITY OF	WPHP482	855.4875	YP
HOT SPRING	HOT SPRINGS, CITY OF	WPHP482	855.9875	YP
HOT SPRING	HOT SPRINGS, CITY OF	WPHP482	857.4375	YP
HOT SPRING	HOT SPRINGS, CITY OF	WPHP482	858.4375	YP
HOT SPRING	HOT SPRINGS, CITY OF	WPHP482	859.4375	YP
HOT SPRING	HOT SPRINGS, CITY OF	WPHP482	860.2625	YP
HOT SPRING	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	72.8600	PM
HOT SPRING	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	155.3400	PM
HOT SPRING	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	453.0125	PM
HOT SPRING	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	453.1750	PM
LAKE VILLA	CHICOT, COUNTY OF	WPHK486	155.5800	PP
LITTLE ROC	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	453.1750	PM
MALVERN	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	453.1750	PM
MARION	CRITTENDEN, COUNTY OF	WPHQ261	153.5300	PP
MOUNT IDA	ST JOSEPHS REGIONAL HEALTH CEN	WNXR559	453.1750	PM
	Arizona			
	BULLHEAD CITY, CITY OF	WNCM624	154.8150	PP
	BULLHEAD CITY, CITY OF	WNCM624	155.0100	PP
	BULLHEAD CITY, CITY OF	WNCM624	155.4750	PP
	BULLHEAD CITY, CITY OF	WNCM624	155.7150	PP
	SCOTTSDALE UNIFIED SCHOOL DIST	KNHG415	155.2200	PS
	SCOTTSDALE, CITY OF	KN8211	154.2800	PF

City	Licensee	Callsign	Freq	Sr.
BULLHEAD C	BULLHEAD CITY, CITY OF	WNCM624	154.7250	PP
BULLHEAD C	BULLHEAD CITY, CITY OF	WNCM624	154.8150	PP
BULLHEAD C	BULLHEAD CITY, CITY OF	WNCM624	155.0100	PP
BULLHEAD C	BULLHEAD CITY, CITY OF	WNCM624	155.4750	PP
CHINLE	NAVAJO TRIBE	KBY530	154.7100	PP
CHINLE	NAVAJO TRIBE	KBY530	158.7100	PP
COTTONWOOD	SOUTHWEST AMBULANCE INC	WPHR376	460.5500	PM
COTTONWOOD	SOUTHWEST AMBULANCE INC	WPHR376	465.5500	PM
DUDLEYVILL	DUDLEYVILLE VOL FIRE DISTRICT	WSS383	154.1300	PF
GANADO	SAGE MEMORIAL HOSPITAL	WNCM762	155.2800	PS
GLOBE	GLOBE, CITY OF	WPHN858	153.9650	PL
GOODYEAR	GOODYEAR, CITY OF	WPHM770	154.2800	PF
KAYENTA	NAVAJO TRIBAL UTILITY AUTHORIT	WNTB372	1885.0000	PL
LITCHFIELD	SOUTHWEST AMBULANCE INC	WPHR376	460.5500	PM
LITCHFIELD	SOUTHWEST AMBULANCE INC	WPHR376	465.5500	PM
MESA	SOUTHWEST AMBULANCE INC	WPHR376	460.5500	PM
MESA	SOUTHWEST AMBULANCE INC	WPHR376	465.5500	PM
PHOENIX	SOUTHWEST AMBULANCE INC	WPHR376	460.5500	PM
PHOENIX	SOUTHWEST AMBULANCE INC	WPHR376	465.5500	PM
SAFFORD	SOUTHWEST AMBULANCE INC	KNEE616	155.1750	PS
SAFFORD	SOUTHWEST AMBULANCE INC	WPHR376	460.5500	PM
SAFFORD	SOUTHWEST AMBULANCE INC	WPHR376	465.5500	PM
SCOTTSDALE	MARICOPA, COUNTY OF	KVJ662	39.1800	PP
SCOTTSDALE	SCOTTSDALE UNIFIED SCHOOL DIST	KNHG415	155.2200	PS
TORTILLA F	ARIZONA, STATE OF	WNRW261	156.1050	PH
TORTILLA F	ARIZONA, STATE OF	WNRW261	156.1350	PH
TUCSON	TUCSON, CITY OF	WRG369	453.6000	PF
TUCSON	TUCSON, CITY OF	WRG369	458.6000	PF
YUMA	YUMA, COUNTY OF	WNCF883	155.0700	PP

California

	CALIFORNIA, STATE OF	WPHN553	458.2875	PL
	COVELO FIRE PROTECTION DISTRIC	WQW839	153.9500	PF
	COVELO FIRE PROTECTION DISTRIC	WQW839	154.1900	PF
	COVELO FIRE PROTECTION DISTRIC	WQW839	154.2800	PF
	MORENO VALLEY, CITY OF	WPHN850	453.5625	PL
	MORENO VALLEY, CITY OF	WPHN850	453.8625	PL
	OAKVIEW UNION SCHOOL DISTRICT	WNSL351	155.2650	PS
	RINCON VALLEY FIRE PROTECTION	KME626	154.1750	PF
	RINCON VALLEY FIRE PROTECTION	KME626	154.2800	PF
	RINCON VALLEY FIRE PROTECTION	KME626	154.3100	PF
	SAN DIEGO, COUNTY OF	WNZQ711	46.3400	PS
	SAN FRANCISCO, CITY AND COUNTY	KB91548	460.0875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	460.1875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	460.2875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	460.3875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	465.0875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	465.1875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	465.2875	PP
	SAN FRANCISCO, CITY AND COUNTY	KB91548	465.3875	PP
	SHASTA, COUNTY OF	KYB716	154.0100	PF
	SHASTA, COUNTY OF	KYB716	154.2800	PF
	SHASTA, COUNTY OF	KYB716	154.4000	PF
	SHASTA, COUNTY OF	KYB716	154.4300	PF
	SISKIYOU, COUNTY OF	KXP278	154.3400	PF
	STANISLAUS, COUNTY OF	KC8641	153.8900	PF
	STANISLAUS, COUNTY OF	KC8641	154.2650	PF
	STANISLAUS, COUNTY OF	KC8641	154.2800	PF
	STANISLAUS, COUNTY OF	KC8641	154.2950	PF
ADIN	MODOC, COUNTY OF	WPHQ836	153.9200	PL
ADIN	MODOC, COUNTY OF	WPHQ836	158.8350	PL
ALAMEDA	AMERICAN RED CROSS BAY AREA	WPHI754	47.4600	PS
ALAMEDA	AMERICAN RED CROSS BAY AREA	WPHI754	47.5000	PS
ALAMEDA	AMERICAN RED CROSS BAY AREA	WPHI754	47.5400	PS
ALAMEDA	AMERICAN RED CROSS BAY AREA	WPHI754	47.5800	PS
ALAMEDA	AMERICAN RED CROSS BAY AREA	WPHI754	47.6200	PS
ALAMEDA	AMERICAN RED CROSS BAY AREA	WPHI754	47.6600	PS
ALHAMBRA	ALHAMBRA, CITY OF	KME405	153.9950	PL
ALHAMBRA	ALHAMBRA, CITY OF	KME405	460.4625	PL
ALHAMBRA	ALHAMBRA, CITY OF	KME405	465.4625	PL
ALTURAS	MODOC, COUNTY OF	WPHQ836	153.9200	PL
ALTURAS	MODOC, COUNTY OF	WPHQ836	158.8350	PL
ATWATER	CALIFORNIA, STATE OF	WNTX761	955.8000	PL
AUBURN	AUBURN, CITY OF	WNQN942	154.2800	PF
AUBURN	AUBURN, CITY OF	WNQN942	154.2950	PF
AUBURN	AUBURN, CITY OF	WNQN942	154.3550	PF
AUBURN	AUBURN, CITY OF	WNQN942	154.4000	PF
BAKER	SAN BERNARDINO, COUNTY OF	WNNB566	855.7250	GP
BAKER	SAN BERNARDINO, COUNTY OF	WNNB566	859.4750	GP
BAKER	SAN BERNARDINO, COUNTY OF	WNNB566	860.4500	GP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB570	854.9750	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB570	856.2250	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB570	857.2250	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB570	858.2500	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB570	858.7500	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	855.2250	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	856.4500	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	857.4500	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	857.9750	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	858.9500	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	859.9750	YP
BARSTOW	SAN BERNARDINO, COUNTY OF	WNNB576	860.4500	YP
CALIFORNIA	CALIFORNIA CITY, CITY OF	WSL679	453.2250	PL
CALIFORNIA	CALIFORNIA CITY, CITY OF	WSL679	453.5000	PL
CALIFORNIA	CALIFORNIA CITY, CITY OF	WSL679	453.7500	PL
CALIFORNIA	CALIFORNIA CITY, CITY OF	WSL679	458.5000	PL
CALIFORNIA	CALIFORNIA CITY, CITY OF	WSL679	458.7500	PL
CAPAY	CALIFORNIA, STATE OF	WPHM437	42.4200	PP
CARPINTERI	CALIFORNIA, STATE OF	WNAS504	855.7375	GP
CARSON	ARCO COMMUNICATIONS INC	WNCX598	154.2800	PF
CEDARVILLE	MODOC, COUNTY OF	WPHQ836	153.9200	PL
CEDARVILLE	MODOC, COUNTY OF	WPHQ836	158.8350	PL
CHESTER	CHESTER FIRE PROTECTION DISTRI	KAA387	154.2800	PF
CHICO	CALIFORNIA, STATE OF	KMH963	75.9200	PP
CHICO	CALIFORNIA, STATE OF	KMH963	75.9600	PP
CITRUS HEI	SACRAMENTO REGIONAL FIRE/EMS C	KNFM243	154.1900	PF
CITRUS HEI	SACRAMENTO REGIONAL FIRE/EMS C	KNFM243	154.2800	PF
COLUMBIA	CALIFORNIA, STATE OF	KNCR564	860.9875	GP
CONCORD	AMERICAN RED CROSS BAY AREA	WPHI754	47.4600	PS
CONCORD	AMERICAN RED CROSS BAY AREA	WPHI754	47.5000	PS
CONCORD	AMERICAN RED CROSS BAY AREA	WPHI754	47.5400	PS
CONCORD	AMERICAN RED CROSS BAY AREA	WPHI754	47.5800	PS
CONCORD	AMERICAN RED CROSS BAY AREA	WPHI754	47.6200	PS
CONCORD	AMERICAN RED CROSS BAY AREA	WPHI754	47.6600	PS
CRESCENT C	DEL NORTE, COUNTY OF	WPHQ837	155.5650	PP
CROCKETT	CONTRA COSTA, COUNTY OF	WPHG665	37.1200	PL
DESCANSO	CALIFORNIA, STATE OF	WPHM438	39.6000	PP
DESCANSO	SAN DIEGO, COUNTY OF	WNZQ711	46.3400	PS
DOBBINS	YUBA COUNTY RURAL FIRE JOINT P	WPCP873	150.7750	PM
DOBBINS	YUBA COUNTY RURAL FIRE JOINT P	WPCP873	155.3550	PM
DOBBINS	YUBA COUNTY RURAL FIRE JOINT P	WPCP873	155.3850	PM
DOBBINS	YUBA COUNTY RURAL FIRE JOINT P	WPCP873	155.4000	PM
ESSEX	CALIFORNIA, STATE OF	KZE766	44.7200	PO
FORBESTOWN	YUBA COUNTY RURAL FIRE JOINT P	WNUJ527	153.8300	PF
FORBESTOWN	YUBA COUNTY RURAL FIRE JOINT P	WNUJ527	154.1450	PF
GAVIOTA	CALIFORNIA, STATE OF	KNJJ530	855.7375	GP
GOLETA	CALIFORNIA, STATE OF	KNJJ530	855.7375	GP
GOLETA	CALIFORNIA, STATE OF	KNJJ538	855.7375	GP
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.1900	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.2200	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.2650	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.2800	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.3250	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.3550	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	151.4000	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	159.2250	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	159.3000	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	159.3300	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	159.3600	PO
GRASS VALL	CALIFORNIA, STATE OF	KRA481	159.3750	PO
INDIO	CALIFORNIA, STATE OF	WPHM438	39.6000	PP
JACUMBA	CALIFORNIA, STATE OF	WPHM438	39.6000	PP
LA JOLLA	CALIFORNIA, STATE OF	WPHM445	39.4000	PP
LA JOLLA	CALIFORNIA, STATE OF	WPHM449	39.8000	PP
LA MIRADA	MONEBELLO, CITY OF	WPHM230	859.2625	GP
LAKE ELSIN	CALIFORNIA, STATE OF	WPHM449	39.8000	PP
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	473.5125	PF
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	485.6625	PF
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	485.6875	PF
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	485.7125	PF
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	485.7375	PF
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	485.7625	PF
LANCASTER	LOS ANGELES, COUNTY OF	WIM363	485.7875	PF
LIVERMORE	AMERICAN RED CROSS BAY AREA	WPHI754	47.4600	PS
LIVERMORE	AMERICAN RED CROSS BAY AREA	WPHI754	47.5000	PS
LIVERMORE	AMERICAN RED CROSS BAY AREA	WPHI754	47.5400	PS
LIVERMORE	AMERICAN RED CROSS BAY AREA	WPHI754	47.5800	PS
LIVERMORE	AMERICAN RED CROSS BAY AREA	WPHI754	47.6200	PS

City	Licensee	Callsign	Freq	Sr.
LIVERMORE	AMERICAN RED CROSS BAY AREA	WPHI754	47.6600	PS
LOS ANGELE	LOS ANGELES, CITY OF	WPHJ776	159.0300	PP
LOS ANGELE	LOS ANGELES, CITY OF	WPHJ776	159.1800	PP
MARTINEZ	CONTRA COSTA, COUNTY OF	WPHG665	37.1200	PL
MARTINEZ	MARTINEZ, CITY OF	KMG537	460.4750	PP
MARTINEZ	MARTINEZ, CITY OF	KMG537	465.4750	PP
MIDDLETOWN	CALIFORNIA, STATE OF	WPHM437	42.4200	PP
MOUNTAIN P	SAN BERNARDINO, COUNTY OF	WNNB565	857.4500	GP
MOUNTAIN P	SAN BERNARDINO, COUNTY OF	WNNB565	858.4750	GP
MOUNTAIN P	SAN BERNARDINO, COUNTY OF	WNNB565	860.2500	GP
MOUNTAIN V	MOUNTAIN VIEW, CITY OF	KFI602	453.0500	PL
NAPA	CALIFORNIA, STATE OF	KMH961	42.4200	PP
OAKLAND	CONTRA COSTA, COUNTY OF	WPHG665	37.1200	PL
ORANGE	CALIFORNIA, STATE OF	KUB814	42.1600	PP
ORANGE	CALIFORNIA, STATE OF	KUB814	42.1800	PP
ORANGE	CALIFORNIA, STATE OF	KUB814	42.3400	PP
ORANGE	CALIFORNIA, STATE OF	KUB814	42.4000	PP
ORANGE	CALIFORNIA, STATE OF	KUB814	42.4800	PP
ORANGE	CALIFORNIA, STATE OF	KUB814	42.6800	PP
ORCUTT	ORCUTT UNION SCHOOL DISTRICT	WNCT957	155.1750	PS
PALOMAR MO	CALIFORNIA, STATE OF	WPHM449	39.8000	PP
PINE GROVE	CALIFORNIA, STATE OF	KNCR562	856.7375	GP
PLEASANT H	CONTRA COSTA, COUNTY OF	WPHG665	37.1200	PL
POMONA	BREA. CITY OF	WPHM229	855.2375	GP
POMONA	LOS ANGELES, COUNTY OF	WIM374	473.5125	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	473.5375	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	485.6625	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	485.6875	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	485.7125	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	485.7375	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	485.7625	PF
POMONA	LOS ANGELES, COUNTY OF	WIM374	485.7875	PF
RAMONA	CALIFORNIA, STATE OF	WPHM433	39.1400	PP
RAMONA	CALIFORNIA, STATE OF	WPHM438	39.6000	PP
RAMONA	CALIFORNIA, STATE OF	WPHM445	39.4000	PP
RAMONA	CALIFORNIA, STATE OF	WPHM449	39.8000	PP
REDDING	REDDING, CITY OF	KDE634	153.7700	PF
REDDING	REDDING, CITY OF	KDE634	154.3250	PF
RICHMOND	AMERICAN RED CROSS BAY AREA	WPHI754	47.4600	PS
RICHMOND	AMERICAN RED CROSS BAY AREA	WPHI754	47.5000	PS
RICHMOND	AMERICAN RED CROSS BAY AREA	WPHI754	47.5400	PS
RICHMOND	AMERICAN RED CROSS BAY AREA	WPHI754	47.5800	PS
RICHMOND	AMERICAN RED CROSS BAY AREA	WPHI754	47.6200	PS
RICHMOND	AMERICAN RED CROSS BAY AREA	WPHI754	47.6600	PS
RICHMOND	CONTRA COSTA, COUNTY OF	WPHG665	37.1200	PL
RIVERSIDE	RIVERSIDE, COUNTY OF	WNCY438	47.5400	PS
SACRAMENTO	CALIFORNIA, STATE OF	WPHM457	460.4500	PP
SACRAMENTO	CALIFORNIA, STATE OF	WPHM457	465.4500	PP
SACRAMENTO	SACRAMENTO REGIONAL FIRE/EMS C	KNFM243	154.1900	PF
SAN DIEGO	SAN DIEGO, COUNTY OF	WNZQ711	44.9200	PS
SAN DIMAS	BREA. CITY OF	WPHM229	855.2375	GP
SAN JACINT	CALIFORNIA, STATE OF	WPHM433	39.1400	PP
SAN JACINT	CALIFORNIA, STATE OF	WPHM449	39.8000	PP
SAN RAFAEL	SAN RAFAEL, CITY OF	WPHM461	46.5600	PL
SANTA ANA	ORANGE, COUNTY OF	WIM385	509.3625	PP
SANTA ANA	ORANGE, COUNTY OF	WIM385	509.6125	PP
SANTA ANA	ORANGE, COUNTY OF	WIM385	509.8625	PP
SANTA ANA	ORANGE, COUNTY OF	WIM385	510.1125	PP
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	154.0550	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	155.1450	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	155.5350	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	156.0150	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	156.1500	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	158.7300	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	158.7450	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	158.7600	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	158.7750	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	158.8950	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	158.9400	PL
SANTA PAUL	VENTURA, COUNTY OF	WPHJ775	159.2100	PL
SANTA ROSA	RINCON VALLEY FIRE PROTECTION	KME626	154.1750	PF
SANTA ROSA	SANTA ROSA, CITY OF	KMA351	460.2000	PP
SUNNYVALE	FREMONT UNION HIGH SCHOOL DIST	WQK505	155.2050	PS
TECATE	CALIFORNIA, STATE OF	WPHM433	39.1400	PP
TECATE	CALIFORNIA, STATE OF	WPHM438	39.6000	PP
TRONA	SAN BERNARDINO, COUNTY OF	WNNB568	858.4750	GP
TRONA	SAN BERNARDINO, COUNTY OF	WNNB568	859.4750	GP
TRONA	SAN BERNARDINO, COUNTY OF	WNNB568	860.2500	GP
TRUCKEE	CALIFORNIA, STATE OF	KAV501	159.4200	PO
UKIAH	UKIAH, CITY OF	KMF963	153.9500	PF
UKIAH	UKIAH, CITY OF	KMF963	154.0100	PF
UNION CITY	AMERICAN RED CROSS BAY AREA	WPHI754	47.4600	PS
UNION CITY	AMERICAN RED CROSS BAY AREA	WPHI754	47.5000	PS
UNION CITY	AMERICAN RED CROSS BAY AREA	WPHI754	47.5400	PS
UNION CITY	AMERICAN RED CROSS BAY AREA	WPHI754	47.5800	PS
UNION CITY	AMERICAN RED CROSS BAY AREA	WPHI754	47.6200	PS
UNION CITY	AMERICAN RED CROSS BAY AREA	WPHI754	47.6600	PS
WHITTIER	MONEBELLO, CITY OF	WPHM230	859.2625	GP

Colorado

	CAMPO SCHOOL DISTRICT RE 6	KYU867	155.2350	PS
	COLORADO SPRINGS, CITY OF	WPHK775	856.7625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	856.9375	YP
	COLORADO SPRINGS, CITY OF	WPHK775	856.9625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	856.9875	YP
	COLORADO SPRINGS, CITY OF	WPHK775	857.9375	YP
	COLORADO SPRINGS, CITY OF	WPHK775	857.9625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	857.9875	YP
	COLORADO SPRINGS, CITY OF	WPHK775	858.7625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	858.9375	YP
	COLORADO SPRINGS, CITY OF	WPHK775	858.9625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	858.9875	YP
	COLORADO SPRINGS, CITY OF	WPHK775	859.7625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	859.9375	YP
	COLORADO SPRINGS, CITY OF	WPHK775	859.9625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	859.9875	YP
	COLORADO SPRINGS, CITY OF	WPHK775	860.7375	YP
	COLORADO SPRINGS, CITY OF	WPHK775	860.7625	YP
	COLORADO SPRINGS, CITY OF	WPHK775	860.9375	YP
	COLORADO SPRINGS, CITY OF	WPHK775	860.9625	YP
	ELIZABETH FIRE PROTECTION DIST	KNBJ843	154.2050	PF
	POUDRE FIRE AUTHORITY	WPHQ773	453.2500	PF
	POUDRE FIRE AUTHORITY	WPHQ773	458.2500	PF
AURORA	COLORADO, STATE OF	WNTY589	952.0062	PL
COLO SPRIN	STRATMOOR HILLS VOLUNTEER FIRE	WQC628	154.2200	PF
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	856.7625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	856.9375	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	856.9625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	856.9875	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	857.7625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	857.9375	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	857.9625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	857.9875	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	858.7625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	858.9375	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	858.9625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	858.9875	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	859.7625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	859.9375	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	859.9625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	859.9875	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	860.7375	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	860.7625	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	860.9375	YP
COLORADO S	COLORADO SPRINGS, CITY OF	WPHK775	860.9625	YP
DENVER	COLORADO, STATE OF	WNTY590	928.6562	PL
DENVER	COLORADO, STATE OF	WNTY590	952.6562	PL
DURANGO	DURANGO, CITY OF	WNCG993	153.5150	IW
FORT COLLI	FORT COLLINS, CITY OF	WPDD340	453.6000	PL
FORT COLLI	POUDRE FIRE AUTHORITY	WPHQ773	453.2500	PF
PUEBLO	COLORADO, STATE OF	WPHK881	866.9875	GF

Connecticut

	CHESTERFIELD FIRE DEPT	KM2258	33.7400	PF
	CHESTERFIELD FIRE DEPT	KM2258	33.7800	PF
	CHESTERFIELD FIRE DEPT	KM2258	33.9000	PF
	CHESTERFIELD FIRE DEPT	KM2258	33.9600	PF
	NORTH BRANFORD, TOWN OF	WDQ916	460.1500	PP
	NORTH BRANFORD, TOWN OF	WDQ916	465.1500	PP
AVON	AVON, TOWN OF	KNIZ468	453.0500	PL
BRIDGEPORT	ST VINCENTS MEDICAL CENTER	KRR911	155.3400	PS
BURLINGTON	BURLINGTON VOLUNTEER FIRE DEPT	KBA626	33.5000	PF
ENFIELD	ENFIELD, TOWN OF	WNGL395	453.2000	PL
FITCHVILLE	CONNECTICUT, STATE OF	WPHK438	173.0750	PP
GLASTONBUR	CONNECTICUT, STATE OF	WPHK438	173.0750	PP
HAMDEN	HAMDEN, TOWN OF	WNSN659	153.8000	PL

City	Licensee	Callsign	Freq	Sr.
MARLBOROUG	MARLBOROUGH, TOWN OF	KDQ305	46.1800	PF
MARLBOROUG	MARLBOROUGH, TOWN OF	KDQ305	46.2200	PF
NEWINGTON	WETHERSFIELD, TOWN OF	KNFF796	460.6250	PF
REDDING	RYDER STUDENT TRANSPORTATION	WPCA660	155.2650	PS
ROCKY HILL	WETHERSFIELD, TOWN OF	KNFF796	460.6250	PF
SHELTON	SHELTON, CITY OF	KCE518	33.8800	PF
SHELTON	SHELTON, CITY OF	KCE518	453.4375	PF
TRUMBULL	CONNECTICUT, STATE OF	WPHK438	173.0750	PP
WATERBURY	WATERBURY, TOWN OF	WNNM913	851.5625	GP
WETHERSFIE	WETHERSFIELD, TOWN OF	KNFF796	460.6250	PF
WETHERSFIE	WETHERSFIELD, TOWN OF	KNFF796	465.5875	PF
WETHERSFIE	WETHERSFIELD, TOWN OF	KNFF796	465.6250	PF
WINDSOR LO	WINDSOR LOCKS, TOWN OF	WPHN546	155.2050	PS
WOLCOTT	CONNECTICUT, STATE OF	WPHK438	173.0750	PP

Delaware

BETHANY BE	BETHANY, BEACH	WPHP509	155.7600	PL
DELMAR	WICOMICO, COUNTY OF	KGE889	33.4800	PF
DELMAR	WICOMICO, COUNTY OF	KGE889	33.7800	PF
DELMAR	WICOMICO, COUNTY OF	KGE889	33.8000	PF
DELMAR	WICOMICO, COUNTY OF	KGE889	33.9800	PF
MIDDLETOWN	MIDDLETOWN, CITY OF	WRB477	155.7750	PL

Florida

	BROWARD, COUNTY OF	WPHP600	453.4375	PL
	DELAND, CITY OF	WNSI618	153.9650	PL
	FLORIDA, STATE OF	WPHP608	453.2625	PL
	HALLANDALE, CITY OF	WPHJ772	453.9125	PL
	JACKSONVILLE, CITY OF	WNSC913	859.2375	YP
	JEFFERSON COUNTY AMBULANCE SER	KYK400	463.1250	PS
	JEFFERSON COUNTY AMBULANCE SER	KYK400	463.1500	PS
	JEFFERSON COUNTY AMBULANCE SER	KYK400	463.1750	PS
	MARION, COUNTY OF	KNFH989	463.0000	PS
	MARION, COUNTY OF	KNFH989	463.0250	PS
	MARION, COUNTY OF	KNFH989	463.0500	PS
	MARION, COUNTY OF	KNFH989	463.0750	PS
	MARION, COUNTY OF	KNFH989	463.1000	PS
	MARION, COUNTY OF	KNFH989	463.1250	PS
	MARION, COUNTY OF	KNFH989	463.1500	PS
	MARION, COUNTY OF	KNFH989	463.1750	PS
	NAPLES, CITY OF	KB69419	453.6875	PL
	RURAL METRO CORP	KDK690	155.2050	PS
BRATT	FLORIDA, STATE OF	KIB473	154.6950	PP
CRESTVIEW	OKALOOSA, COUNTY OF	WPHP604	154.7250	PL
GAINESVILL	FLORIDA, STATE OF	KAV733	154.6950	PP
HIGH SPRIN	HIGH SPRINGS, CITY OF	WPHN626	453.3000	PP
HIGH SPRIN	HIGH SPRINGS, CITY OF	WPHN626	458.3000	PP
HOLLY HILL	HOLLY HILL, CITY OF	KEP597	154.1150	PL
JACKSONVIL	JACKSONVILLE, CITY OF	WNTY965	956.4437	IW
LAKE SUZY	CHARLOTTE, COUNTY OF	WPHM405	458.3250	PL
MILTON	FLORIDA, STATE OF	KIB473	154.6950	PP
MILTON	FLORIDA, STATE OF	KIB473	154.9200	PP
MONTICELLO	JEFFERSON COUNTY AMBULANCE SER	KYK400	463.0250	PS
MONTICELLO	JEFFERSON COUNTY AMBULANCE SER	KYK400	463.0500	PS
MONTICELLO	JEFFERSON COUNTY AMBULANCE SER	KYK400	463.0750	PS
NICEVILLE	OKALOOSA, COUNTY OF	WPHP362	458.8000	PL
OCALA	MARION, COUNTY OF	KNFH989	463.0250	PS
OCALA	MARION, COUNTY OF	KNFH989	463.0500	PS
OCALA	MARION, COUNTY OF	KNFH989	463.0750	PS
OCALA	MARION, COUNTY OF	KNFH989	463.1000	PS
OCALA	MARION, COUNTY OF	KNFH989	463.1250	PS
OCALA	MARION, COUNTY OF	KNFH989	463.1500	PS
OCALA	MARION, COUNTY OF	KNFH989	463.1750	PS
PORT CHARL	CHARLOTTE, COUNTY OF	WPHM405	458.3250	PL
SAINT AUGU	SAINT JOHNS, COUNTY OF	WPHM648	173.2037	PL
SAINT AUGU	SAINT JOHNS, COUNTY OF	WPHP503	173.2303	PL
SAINT AUGU	SAINT JOHNS, COUNTY OF	WPHP504	173.2037	PL
SHALIMAR	OKALOOSA, COUNTY OF	WPHP604	153.7850	PL
SHALIMAR	OKALOOSA, COUNTY OF	WPHP604	154.8600	PL
SHALIMAR	OKALOOSA, COUNTY OF	WPHP604	158.9400	PL
VERNON	FLORIDA, STATE OF	WPHI475	854.6125	GP

Georgia

	BURKE, COUNTY OF	WNSO606	153.8450	PL
	BURKE, COUNTY OF	WNSO606	155.7450	PL
	BUTTS, COUNTY OF	KVF801	150.8750	PP
	BUTTS, COUNTY OF	KVF801	154.9050	PP
	BUTTS, COUNTY OF	KVF801	154.9350	PP
	BUTTS, COUNTY OF	KVF801	155.5950	PP
	CAMDEN, COUNTY OF	WYZ563	155.1600	PS
	CAMDEN, COUNTY OF	WYZ563	155.3400	PS
	CAMDEN, COUNTY OF	WYZ563	463.0250	PS
	CAMDEN, COUNTY OF	WYZ563	463.0500	PS
	DOUGLASVILLE, CITY OF	KNIR934	154.9050	PP
	DOUGLASVILLE, CITY OF	KNIR934	154.9350	PP
	DOUGLASVILLE, CITY OF	KNIR934	155.5200	PP
	GEORGIA, STATE OF	WNGN936	151.4450	PL
	GWINNETT, COUNTY OF	KQ2546	154.0700	PF
	GWINNETT, COUNTY OF	KQ2546	154.2800	PF
	GWINNETT, COUNTY OF	KQ2546	154.3100	PF
	JOHNSON, COUNTY OF	WPHN911	156.1800	PL
	JOHNSON, COUNTY OF	WPHN911	159.6600	PL
	SCHLEY, COUNTY OF	WQL684	155.2950	PS
	SCHLEY, COUNTY OF	WQL684	155.3400	PS
	SCREVEN, COUNTY OF	KTU219	154.9050	PP
	SCREVEN, COUNTY OF	KTU219	154.9350	PP
	SCREVEN, COUNTY OF	KTU219	155.0700	PP
	SCREVEN, COUNTY OF	KTU219	155.2500	PP
	SCREVEN, COUNTY OF	KTU219	155.4750	PP
ASHBURN	TURNER, COUNTY OF	WPHN856	453.7250	PL
ASHBURN	TURNER, COUNTY OF	WPHN856	458.7250	PL
ATHENS	GEORGIA, STATE OF	WNSN433	154.9050	PP
CEDARTOWN	GEORGIA, STATE OF	WNSQ743	154.9050	PP
CLAYTON	GEORGIA, STATE OF	WPHQ973	160.0500	PL
CONYERS	GEORGIA, STATE OF	WNSQ614	154.9050	PP
DALTON	GEORGIA, STATE OF	WPHQ972	160.0200	PL
EASTMAN	GEORGIA, STATE OF	WPHQ973	160.0500	PL
ELBERTON	GEORGIA, STATE OF	WNSN635	158.9250	PL
FOREST PKY	FOREST PARK, CITY OF	KVD470	158.1750	IW
FORSYTH	GEORGIA, STATE OF	WNGN936	153.7400	PL
FRANKLIN	HOUSING AUTHORITY OF FRANKLIN	WPHP598	159.8550	PL
JACKSON	BUTTS, COUNTY OF	KVF801	159.6450	PP
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	458.0250	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	458.0750	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	458.1250	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	458.1750	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.0000	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.0500	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.0750	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.1000	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.1250	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.1500	PS
LAGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.1750	PS
LANGRANGE	WEST GEORGIA MEDICAL CENTER	WQG360	463.0250	PS
LOVEJOY	GEORGIA, STATE OF	WPHQ972	160.0200	PL
MARIETTA	GEORGIA, STATE OF	WPHQ972	160.0200	PL
ROME	GEORGIA, STATE OF	WPHQ972	160.0200	PL
SAINT SIMO	GLYNN COUNTY WATER AND SEWER C	WPHH538	173.2625	PL
SANDERSVIL	GEORGIA, STATE OF	WPHQ973	160.0500	PL
SAVANNAH	GEORGIA, STATE OF	WPHM263	855.4875	YP
SAVANNAH	GEORGIA, STATE OF	WPHM263	855.9625	YP
SAVANNAH	GEORGIA, STATE OF	WPHM263	856.7125	YP
SAVANNAH	GEORGIA, STATE OF	WPHM263	857.7125	YP
SAVANNAH	GEORGIA, STATE OF	WPHQ973	160.0500	PL
SHELLMAN B	GEORGIA, STATE OF	WNSN631	158.9250	PL
SWAINSBORO	EMANUEL COUNTY EMS	WPHQ771	150.7900	PM
SWAINSBORO	EMANUEL COUNTY EMS	WPHQ771	151.4300	PM
SYLVANIA	SCREVEN, COUNTY OF	KTU219	158.7900	PP
THOMASTON	UPSON COUNTY REGIONAL MEDICAL	WPHR377	150.7750	PM
THOMASTON	UPSON COUNTY REGIONAL MEDICAL	WPHR377	159.1950	PM
UNION POIN	GREENE, COUNTY OF	KJW651	155.8350	PL
WAYCROSS	GEORGIA, STATE OF	WPHQ973	160.0500	PL
WHIGHAM	GRADY, COUNTY OF	KUE587	154.9050	PP
WHIGHAM	GRADY, COUNTY OF	KUE587	154.9350	PP
WHIGHAM	GRADY, COUNTY OF	KUE587	155.0100	PP
WOODBINE	CAMDEN, COUNTY OF	WYZ563	462.9750	PS
WOODBINE	CAMDEN, COUNTY OF	WYZ563	463.0750	PS
WOODBINE	CAMDEN, COUNTY OF	WYZ563	463.1500	PS
WOODBINE	CAMDEN, COUNTY OF	WYZ563	463.1750	PS
WRIGHTSVIL	JOHNSON, COUNTY OF	WPHN911	156.1800	PL

City	Licensee	Callsign	Freq	Sr.
	Hawaii			
	HAWAII, STATE OF	KNGZ752	158.8350	PL
	HAWAII, STATE OF	KNGZ752	458.7000	PL
	HAWAII, STATE OF	KNGZ752	458.9250	PL
	HONOLULU, CITY & COUNTY OF	WNSL461	153.7700	PF
HONOLULU	HAWAII, STATE OF	KNGZ752	453.8750	PL
HONOLULU	HAWAII, STATE OF	KNIS817	453.6750	PL
HONOLULU	HONOLULU, CITY & COUNTY OF	KXA304	153.7700	PF
HONOLULU	HONOLULU, CITY & COUNTY OF	KXA304	154.2200	PF
HONOLULU	HONOLULU, CITY AND COUNTY OF	KNHB565	154.1450	PF
HONOLULU	HONOLULU, CITY AND COUNTY OF	KNHB565	154.2200	PF
HONOLULU	HONOLULU, CITY AND COUNTY OF	KNHB565	154.3400	PF
HONOLULU	HONOLULU, CITY AND COUNTY OF	KNHB565	154.4000	PF
KAHALUU	HONOLULU, CITY & COUNTY OF	KXA304	153.7700	PF
KAHALUU	HONOLULU, CITY & COUNTY OF	KXA304	154.3400	PF
KAILUA	HONOLULU, CITY & COUNTY OF	KXA304	153.3400	PF
KAILUA	HONOLULU, CITY & COUNTY OF	KXA304	153.7700	PF
KAILUA KON	HAWAII, STATE OF	WPHM441	155.8800	PL
KAPOLEI	HONOLULU, CITY & COUNTY OF	WPHQ991	154.2200	PF
KAPOLEI	HONOLULU, CITY & COUNTY OF	WPHQ991	154.2800	PF
PEARL CITY	HONOLULU, CITY & COUNTY OF	KXA304	153.7700	PF
PEARL CITY	HONOLULU, CITY & COUNTY OF	KXA304	154.2200	PF
WAHIAWA	HONOLULU, CITY & COUNTY OF	KXA304	153.7700	PF
	Iowa			
	CLAY, COUNTY OF	KYU715	458.1500	PH
	HUMBOLDT, COUNTY OF	WPHP687	156.1500	PP
	IOWA, STATE OF	KVN739	154.9950	PL
BROOKLYN	BROOKLYN, TOWN OF	WZX834	155.7750	PL
CEDAR FALL	CEDAR FALLS, CITY OF	KVW225	154.0100	PF
CEDAR FALL	CEDAR FALLS, CITY OF	KVW225	154.1450	PF
CEDAR FALL	CEDAR FALLS, CITY OF	KVW225	154.2800	PF
CEDAR FALL	CEDAR FALLS, CITY OF	KVW225	159.0450	PF
CENTERVILL	APPANOOSE, COUNTY OF	KLD820	151.1150	PH
CORALVILLE	CORALVILLE, CITY OF	WPHJ767	158.7900	PL
CRESCO	CRESCO, CITY OF	KDW967	154.2800	PF
CRESCO	CRESCO, CITY OF	KDW967	154.4000	PF
DAKOTA CIT	HUMBOLDT, COUNTY OF	WPHP687	159.1500	PP
EXIRA	EXIRA COMMUNITY SCHOOL DIST	WPHM465	155.1750	PS
FORT MADIS	IOWA, STATE OF	KU2221	453.3750	PL
FORT MADIS	IOWA, STATE OF	KU2221	458.3750	PL
JOHNSON TW	IOWA, STATE OF	WPHM644	151.3400	PL
KNOXVILLE	KNOXVILLE COMMUNITY SCHOOL	WRZ616	46.0000	PS
LENOX	LENOX, CITY OF	WPHM429	154.9650	PL
OTTER CREE	IOWA, STATE OF	WPHM644	151.3400	PL
SARATOGA	CRESCO, CITY OF	KDW967	154.2800	PF
SARATOGA	CRESCO, CITY OF	KDW967	154.4000	PF
WATERLOO	BLACK HAWK, COUNTY OF	WNDA554	45.8000	PH
WEST LIBER	WEST LIBERTY, CITY OF	WNCY297	155.8200	PL
	Idaho			
	BONNER, COUNTY OF	WNSQ755	155.1600	PS
	BONNER, COUNTY OF	WNSQ755	155.2050	PS
	IDAHO, STATE OF	WNPU369	154.0250	PL
	IDAHO, STATE OF	WNPU369	155.1150	PL
BOISE	IDAHO, STATE OF	WNPU369	155.1150	PL
CASCADE	MIDVALE SCHOOL DISTRICT	WPHQ859	452.4250	PS
CASCADE	MIDVALE SCHOOL DISTRICT	WPHQ859	457.4250	PS
IDAHO FALL	IDAHO FALLS, CITY OF	WNSL353	453.2500	PL
	Illinois			
	ELDORADO, CITY OF	WNCD360	154.0700	PF
	ELDORADO, CITY OF	WNCD360	154.2650	PF
	ELDORADO, CITY OF	WNCD360	154.3400	PF
	ELDORADO, CITY OF	WNCD360	154.4300	PF
	LIVINGSTON, COUNTY OF	WPHP729	460.2000	PP
	LIVINGSTON, COUNTY OF	WPHP729	460.3500	PP
	LIVINGSTON, COUNTY OF	WPHP729	460.5000	PP
	LIVINGSTON, COUNTY OF	WPHP729	460.5750	PP
	MACOUPIN, COUNTY OF	WPFS699	154.7850	PP
	MACOUPIN, COUNTY OF	WPFS699	159.0900	PP
	MACOUPIN, COUNTY OF	WPFS699	456.3000	PP
	MADISON COUNTY HOUSING AUTHORI	WPHJ773	458.4875	PL
	MONROE, COUNTY OF	KVJ609	45.4800	PL
	MONROE, COUNTY OF	KVJ609	153.8750	PL
	MONROE, COUNTY OF	KVJ609	155.0550	PL
	MONTGOMERY, COUNTY OF	WPHP582	154.3250	PF
	MURPHYSBORO POMONA SOMERSET FI	WNSP718	153.9500	PF
	MURPHYSBORO POMONA SOMERSET FI	WNSP718	154.0700	PF
	ST CLAIR, COUNTY OF	WPHJ763	453.2625	PL
	ST CLAIR, COUNTY OF	WPHJ763	458.2625	PL
	STREAMWOOD, VILLAGE OF	KP2502	155.3400	PS
	STREAMWOOD, VILLAGE OF	KP2502	155.4000	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	155.1600	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	155.3400	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	458.0250	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	458.1250	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.0000	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.0500	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.0750	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.1000	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.1250	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.1500	PS
	WASHINGTON COUNTY AMBULANCE &	KX4907	463.1750	PS
BARRINGTON	CUBA, TOWNSHIP OF	KXM326	155.0850	PL
BERWYN	MAC NEAL HOSPITAL	WNSN324	463.0750	PS
BERWYN	MAC NEAL HOSPITAL	WNSN324	463.1750	PS
BOLINGBROO	BOLINGBROOK, VILLAGE OF	WPHM584	150.7900	PM
BOLINGBROO	BOLINGBROOK, VILLAGE OF	WPHM584	155.3250	PM
BUNKER HIL	BUNKER HILL COMMUNITY SCHOOL U	WPHI690	155.2050	PS
CALUMET CI	CALUMET CITY, CITY OF	WPDQ405	856.2125	GP
CAMBRIDGE	CAMBRIDGE, VILLAGE OF	WPHH642	154.7850	PL
CARLINVILL	MACOUPIN, COUNTY OF	WPFS699	155.3700	PP
CARTERVILL	CARTERVILLE, CITY OF	KRT947	154.0700	PF
CHICAGO	ILLINOIS, STATE OF	KVU431	154.9350	PP
CHICAGO	ILLINOIS, STATE OF	KVU431	155.4600	PP
CRYSTAL LA	MC HENRY, COUNTY OF	KXE765	151.3400	PO
CRYSTAL LA	MC HENRY, COUNTY OF	KXE765	159.2100	PO
CRYSTAL LA	MC HENRY, COUNTY OF	KXE765	159.4650	PO
DE KALB	DE KALB, CITY OF	WPHP218	153.8150	PL
DE KALB	DE KALB, CITY OF	WPHP218	155.4150	PL
DE KALB	ILLINOIS, STATE OF	KNBZ620	45.3600	PL
DE KALB	ILLINOIS, STATE OF	KNBZ620	45.4000	PL
DE KALB	ILLINOIS, STATE OF	WPHP596	155.4150	PL
DE SOTO	KINKAID REEDS CREEK CONSERVANC	WPHP506	173.2625	PL
DELAVAN	DELAVAN, CITY OF	KWB761	39.1000	PL
DELAVAN	DELAVAN, CITY OF	KWB761	155.8950	PL
EDWARDSVIL	ILLINOIS, STATE OF	KRA569	155.0550	PP
EDWARDSVIL	ILLINOIS, STATE OF	KRA569	155.3700	PP
EDWARDSVIL	ILLINOIS, STATE OF	KRA569	453.9000	PP
EDWARDSVIL	ILLINOIS, STATE OF	KRA569	458.9000	PP
ELKVILLE	KINKAID REEDS CREEK CONSERVANC	WPHP506	173.2625	PL
EUREKA	WOODFORD, COUNTY OF	KCN993	39.4600	PP
EUREKA	WOODFORD, COUNTY OF	KCN993	39.5000	PP
EUREKA	WOODFORD, COUNTY OF	KCN993	39.8800	PP
EUREKA	WOODFORD, COUNTY OF	KCN993	155.3700	PP
EUREKA	WOODFORD, COUNTY OF	KCN993	453.5500	PP
EUREKA	WOODFORD, COUNTY OF	KCN993	458.5500	PP
FARMERSVIL	FARMERSVILLE WAGGNER FIRE PROT	WNSP723	154.2650	PF
GALATIA	GALATIA SCHOOL DISTRICT 1	KJL467	155.2200	PS
GERMANTOWN	WOODFORD, COUNTY OF	KCN993	39.5000	PP
GERMANTOWN	WOODFORD, COUNTY OF	KCN993	39.6600	PP
GERMANTOWN	WOODFORD, COUNTY OF	KCN993	39.8800	PP
GERMANTOWN	WOODFORD, COUNTY OF	KCN993	453.5500	PP
GERMANTOWN	WOODFORD, COUNTY OF	KCN993	458.5500	PP
GIBSON CIT	GIBSON CITY FIRE PROTECTION DI	WPHM774	154.4150	PF
GILLESPIE	GILLESPIE, COUNTY OF	WPHQ827	154.4787	IW
GURNEE	ILLINOIS, STATE OF	KNBZ624	45.2800	PL
GURNEE	ILLINOIS, STATE OF	KNBZ624	45.4000	PL
HAMILTON	MONTEBELLO, TOWNSHIP OF	WPHP728	151.0100	PH
HARRISBURG	MITCHELLSVILLE WATER DIST	WPHP502	173.3125	PL
HILLSBORO	MONTGOMERY, COUNTY OF	WPHP582	154.3250	PF
KENT	PEARL CITY FIRE PROTECTION DIS	KBZ962	154.1900	PF
LA SALLE	LA SALLE, CITY OF	WPHN550	153.7850	PP
LA SALLE	LA SALLE, CITY OF	WPHN550	154.8150	PP
LEXINGTON	LEXINGTON COMMUNITY FIRE PROT	KAZ439	154.1900	PF
LYONS	LYONS, VILLAGE OF	WPHK652	158.7450	PL
MARSHALL	CLARK, COUNTY OF	KNHZ263	151.1150	PH
MASCOUTAH	MASCOUTAH, CITY OF	KNJK846	155.8200	PL
METAMORA	WOODFORD, COUNTY OF	KCN993	453.5500	PP
MORTON GRO	MORTON GROVE PARK DISTRICT	KB74847	151.1450	PO
MOUNT OLIV	MOUNT OLIVE, CITY OF	WPHK601	155.3700	PP
MURPHYSBOR	KINKAID REEDS CREEK CONSERVANC	WPHP506	173.2625	PL
NOKOMIS	MONTGOMERY, COUNTY OF	WPHP582	154.3250	PF

City	Licensee	Callsign	Freq	Sr.
NORTHBROOK	NORTHBROOK, VILLAGE OF	KBG785	155.7600	PL
PRINCETON	PERRY MEMORIAL HOSPITAL	KWH771	155.3400	PS
PROSPECT H	PROSPECT HEIGHTS, CITY OF	WIK601	470.3625	PP
PROSPECT H	PROSPECT HEIGHTS, CITY OF	WIK601	470.4375	PP
RAYMOND	MONTGOMERY, COUNTY OF	WPHP582	154.3250	PF
ROANOKE	WOODFORD, COUNTY OF	KCN993	453.5500	PP
ROCK ISLAN	TRINITY MEDICAL CENTER	KTW284	163.2500	PS
ROCK ISLAN	TRINITY MEDICALCENTER	KVM556	155.3400	PS
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	155.2200	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	155.3400	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.0000	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.0250	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.0500	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.0750	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.1000	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.1250	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.1500	PM
ROCKFORD	METRO MEDICAL SERVICES INC	WNSA631	463.1750	PM
ROSSVILLE	ROSSVILLE, VILLAGE OF	WNCZ334	154.9800	PL
SAINT PETE	SAINT PETER, VILLAGE OF	WPHP220	155.7600	PL
SPRING GRO	SPRING GROVE, VILLAGE OF	WNRE252	158.8800	PL
SPRINGFIEL	CURRAN GARDNER TWSP PUBLIC WAT	WNCR437	461.1000	PL
SPRINGFIEL	ILLINOIS, STATE OF	KXE703	453.6000	PP
SPRINGFIEL	ILLINOIS, STATE OF	KXE703	453.9000	PP
SPRINGFIEL	ILLINOIS, STATE OF	KXE703	458.6000	PP
SPRINGFIEL	ILLINOIS, STATE OF	KXE703	458.9000	PP
TINLEY PAR	ILLINOIS, STATE OF	KNHZ708	45.4000	PL
WARSAW	WARSAW, CITY OF	WNSN430	158.8200	PL
WATERLOO	MONROE, COUNTY OF	KVJ609	45.4400	PL
WATERLOO	MONROE, COUNTY OF	KVJ609	45.4800	PL
WEST FRANK	UNITED MINE WORKERS OF AMERICA	WPHQ860	155.2800	PS

Indiana

	AUBURN, CITY OF	WPHR716	451.2125	IW
	FLOYD, COUNTY OF	WNBE661	154.8900	PP
	FLOYD, COUNTY OF	WNBE661	155.1300	PP
	FLOYD, COUNTY OF	WNBE661	155.4750	PP
	FLOYD, COUNTY OF	WNBE661	155.6100	PP
	INDIANAPOLIS, CITY OF	KSA318	155.4750	PP
	INDIANAPOLIS, CITY OF	KSA318	158.9100	PP
	INDIANAPOLIS, CITY OF	KSA318	465.4000	PP
	MONROE, COUNTY OF	KCY550	153.7850	PP
	MONROE, COUNTY OF	KCY550	154.8900	PP
	MONROE, COUNTY OF	KCY550	155.1300	PP
	MONROE, COUNTY OF	KCY550	155.4150	PP
	PETERSBURG, CITY OF	KUN492	154.0400	PL
	PETERSBURG, CITY OF	KUN492	155.8950	PL
	POSEY, COUNTY OF	KYU729	158.9550	PL
	SAINT JOSEPH, COUNTY OF	WGI860	458.7500	PL
	SAINT JOSEPH, COUNTY OF	WGI860	458.8500	PL
	TIPTON, COUNTY OF	WPHJ766	154.9800	PL
BLOOMFIELD	GREENE, COUNTY OF	WNSW612	154.2500	PF
BLOOMFIELD	GREENE, COUNTY OF	WNSW612	154.2800	PF
BLOOMINGTO	MONROE, COUNTY OF	KCY550	155.1300	PP
BLOOMINGTO	MONROE, COUNTY OF	KCY550	155.4150	PP
BOONE GROO	VANCOM INC	WPHR572	155.2800	PS
BRAZIL	CLAY, COUNTY OF	WPHN549	156.0300	PP
BRAZIL	CLAY, COUNTY OF	WPHN549	158.7300	PP
BREMEN	BREMEN, TOWN OF	KSQ463	154.1300	PF
COATESVILL	COATESVILLE, TOWN OF	KZF590	154.1300	PF
CONNERSVIL	CONNERSVILLE, CITY OF	WPHI284	153.4700	IW
CONNERSVIL	CONNERSVILLE, CITY OF	WPHI284	158.1300	IW
EAST CHICA	EAST CHICAGO, CITY OF	WPHP505	453.4500	PL
EAST CHICA	EAST CHICAGO, CITY OF	WPHP505	458.4500	PL
EDINBURGH	MEDI STAT AMBULANCE CORP	WPHP726	453.0750	PM
EDINBURGH	MEDI STAT AMBULANCE CORP	WPHP726	458.0750	PM
EDINBURGH	OPERATION LIFE AMBULANCE	WPHI692	155.4000	PM
FARMLAND	FARMLAND, CITY OF	WPHP507	453.6500	PP
FARMLAND	FARMLAND, CITY OF	WPHP507	458.6500	PP
GARY	VANCOM INC	WPHR572	155.2800	PS
GRISSOM AE	GRISSOM REDEVELOPMENT AUTHORIT	WPHR568	453.3250	PL
GRISSOM AE	GRISSOM REDEVELOPMENT AUTHORIT	WPHR568	458.3250	PL
HUNTINGBUR	HUNTINGBURG, CITY OF	WPHF491	153.4700	IW
HUNTINGBUR	HUNTINGBURG, CITY OF	WPHF491	158.1750	IW
MITCHELL	MITCHELL, CITY OF	WNLB651	158.8350	PL
MUNCIE	MEDICAL TECHNICAL ASSOC SVCS I	KNBN831	155.3400	PM
MUNCIE	MEDICAL TECHNICAL ASSOC SVCS I	KNBN831	155.4000	PM
PETERSBURG	PETERSBURG, CITY OF	KUN492	155.8950	PL
PLEASANT L	STEUBEN, TOWNSHIP OF	WPHJ768	154.7250	PL
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	155.3400	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	163.2500	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.0000	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.0250	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.0500	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.0750	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.1000	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.1250	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.1500	PS
PLYMOUTH	SAINT JOSEPHS HOSPITAL OF MARS	KZF641	463.1750	PS
PRAIRIE CR	PRAIRIE CREEK, TOWNSHIP OF	WPHK493	154.1600	PF
PRAIRIE CR	PRAIRIE CREEK, TOWNSHIP OF	WPHK493	154.3100	PF
REYNOLDS	REYNOLDS, CITY OF	WPHP723	173.2875	PL
SELLERSBUR	SELLERSBURG, TOWN OF	WPHH546	154.7550	PP
SELLERSBUR	SELLERSBURG, TOWN OF	WPHH546	158.9400	PP
SOLSBERRY	GREENE, COUNTY OF	WPHK496	154.2500	PF
SOLSBERRY	GREENE, COUNTY OF	WPHK496	154.2800	PF
SOUTH BEND	SAINT JOSEPH, COUNTY OF	WGI860	453.7500	PL
SOUTH BEND	SAINT JOSEPH, COUNTY OF	WGI860	453.8500	PL
SOUTH BEND	SAINT JOSEPH, COUNTY OF	WGI860	458.7500	PL
SOUTH BEND	SAINT JOSEPH, COUNTY OF	WGI860	458.8500	PL
TIPTON	TIPTON, COUNTY OF	WPHJ766	154.9800	PL
ZIONSVILLE	ZIONSVILLE VOLUNTEER FIRE DEPA	WNXK859	154.2200	PF
ZIONSVILLE	ZIONSVILLE VOLUNTEER FIRE DEPA	WNXK859	154.4000	PF

Kansas

	CHEROKEE, COUNTY OF	WPHK597	154.0550	PP
	KANSAS, STATE OF	WNCA817	458.4750	PL
	NEWTON, CITY OF	WPHQ869	451.1000	IW
DODGE CITY	DODGE CITY, CITY OF	WNBH410	156.1050	PH
HIGHLAND	HIGHLAND, CITY OF	WPHP620	453.1500	PL
HIGHLAND	HIGHLAND, CITY OF	WPHP620	458.1500	PL
LARNED	LARNED, CITY OF	WPHP721	155.1450	PL
LARNED	LARNED, CITY OF	WPHP721	158.8650	PL
OSKALOOSA	JEFFERSON, COUNTY OF	WNDY292	153.9800	PL
OSKALOOSA	JEFFERSON, COUNTY OF	WNDY292	158.8200	PL
OTTAWA	OTTAWA, CITY OF	WPHM589	173.2625	IW
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	462.9500	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.0000	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.0250	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.0500	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.0750	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.1000	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.1250	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.1500	PS
PAOLA	MIAMI COUNTY MEDICAL CENTER	WQM314	463.1750	PS
PARSONS	PARSONS, CITY OF	KNFR876	153.7700	PF
PARSONS	PARSONS, CITY OF	KNFR876	154.3850	PF
POWHATTAN	BROWN, COUNTY OF	WPHH534	173.3375	PL
ROSE HILL	ROSE HILL, CITY OF	WNSP855	453.5500	PL
SALINA	SALINA, CITY OF	WPHK644	453.9250	PL
SALINA	SALINA, CITY OF	WPHK644	458.3375	PL
VALLEY FAL	JEFFERSON, COUNTY OF	WNDY292	153.9800	PL
WELLINGTON	WELLINGTON, CITY OF	KAL762	154.0400	PL

Kentucky

	DIXIE SUBURBAN FIRE DISTRICT	KIK879	154.1600	PF
	DIXIE SUBURBAN FIRE DISTRICT	KIK879	154.2500	PF
	DIXIE SUBURBAN FIRE DISTRICT	KIK879	154.2950	PF
	DIXIE SUBURBAN FIRE DISTRICT	KIK879	154.3700	PF
	DIXIE SUBURBAN FIRE DISTRICT	KIK879	154.4000	PF
	JOHNSON, COUNTY OF	WQE462	45.8000	PH
	KENTON, COUNTY OF	KA53451	154.2350	PF
	KNOX COUNTY EMS	WPFA589	150.7900	PM
	KNOX COUNTY EMS	WPFA589	155.3250	PM
	MOUNTAIN LIFELINE AMBULANCE SE	WPHE819	150.7750	PM
	MOUNTAIN LIFELINE AMBULANCE SE	WPHE819	155.4000	PM
	WHITLEY, COUNTY OF	WPHM656	154.0850	PL
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	462.9500	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	462.9750	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.0000	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.0250	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.0500	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.0750	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.1000	PM

City	Licensee	Callsign	Freq	Sr.
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.1250	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.1500	PM
BOWLING GR	GREENVIEW HOSPITAL INC	WPHK490	463.1750	PM
BOWLING GR	KENTUCKY, COMMONWEALTH OF	WQD432	453.4000	PP
BOWLING GR	TOWNE & COUNTY OF BOWLING GREE	WPDS551	463.2250	IB
CORBIN	CORBIN, CITY OF	WNSN375	154.4712	IW
COVINGTON	COVINGTON, CITY OF	KIB266	153.8900	PF
COVINGTON	COVINGTON, CITY OF	KIB266	154.4300	PF
ERLANGER	BAPTIST VILLAGE OF NORTHERN KE	WPHQ958	462.7500	IB
FONDE	FRAKES VOLUNTEER FIRE DEPARTME	WNCT876	453.0500	PF
HOPKINSVIL	HOPKINSVILLE, CITY OF	WRW390	154.3550	PF
LOUISA	LAWRENCE, COUNTY OF	KNDZ223	155.5650	PP
LOUISA	LAWRENCE, COUNTY OF	KNDZ223	460.0750	PP
LOUISA	LAWRENCE, COUNTY OF	KNDZ223	465.0750	PP
MANCHESTER	KNOX COUNTY EMS	WPFA589	155.3250	PM
MANCHESTER	MANCHESTER, CITY OF	WPHK492	154.0700	PF
MANCHESTER	MANCHESTER, CITY OF	WPHK492	159.1050	PF
RUSSELL SP	WADE, C LESLIE	WNAB793	155.2350	PS
WHITLEY CI	MC CREARY, COUNTY OF	WNSL687	155.1000	PL
WILLIAMSBU	MOUNTAIN LIFELINE AMBULANCE SE	WPHE819	155.4000	PM
WILLIAMSBU	WHITLEY, COUNTY OF	WPHM656	154.0850	PL

Louisiana

	BATON ROUGE, CITY OF	WPHN428	851.3375	YP
	BATON ROUGE, CITY OF	WPHN428	851.3875	YP
	BATON ROUGE, CITY OF	WPHN428	852.4625	YP
	BATON ROUGE, CITY OF	WPHN428	852.9125	YP
	BATON ROUGE, CITY OF	WPHN428	852.9625	YP
	BATON ROUGE, CITY OF	WPHN428	853.0875	YP
	BATON ROUGE, CITY OF	WPHN428	853.4125	YP
	BATON ROUGE, CITY OF	WPHN428	854.4625	YP
	BATON ROUGE, CITY OF	WPHN428	854.5875	YP
	BATON ROUGE, CITY OF	WPHN428	854.7125	YP
	BATON ROUGE, CITY OF	WPHN428	855.2375	YP
	BATON ROUGE, CITY OF	WPHN428	855.7125	YP
	BATON ROUGE, CITY OF	WPHN428	858.2625	YP
	CADDO, PARISH OF	KNFQ687	39.5000	PP
	CADDO, PARISH OF	KNFQ687	453.0500	PP
	CADDO, PARISH OF	KNFQ687	453.3500	PP
	CADDO, PARISH OF	KNFQ687	458.0500	PP
	CADDO, PARISH OF	KNFQ687	458.3500	PP
	NATCHITOCHES, PARISH OF	KNIQ490	154.1150	PL
	NATCHITOCHES, PARISH OF	KNIQ490	156.2400	PL
	WEBSTER PARISH COMMUNICATIONS	WPHJ764	153.7400	PL
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	851.3375	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	851.3875	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	852.4625	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	852.9125	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	852.9625	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	853.0875	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	853.4125	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	854.4625	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	854.5875	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	854.7125	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	855.2375	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	855.7125	YP
BATON ROUG	BATON ROUGE, CITY OF	WPHN428	858.2625	YP
BREAUX BRI	BREAUX BRIDGE, TOWN OF	KNCE590	153.9500	PF
BREAUX BRI	BREAUX BRIDGE, TOWN OF	KNCE590	154.0700	PF
BREAUX BRI	BREAUX BRIDGE, TOWN OF	KNCE590	154.2800	PF
CHALMETTE	SAINT BERNARD, PARISH OF	WNDA612	155.2200	PS
ERATH	ERATH VOL FIRE DEPT	WPHR378	154.2050	PF
JEFFERSON	ALTON OCHSNER MEDICAL FOUNDATI	KGN510	462.9500	PS
JEFFERSON	ALTON OCHSNER MEDICAL FOUNDATI	KGN510	463.0250	PS
JEFFERSON	ALTON OCHSNER MEDICAL FOUNDATI	KGN510	463.0500	PS
JEFFERSON	ALTON OCHSNER MEDICAL FOUNDATI	KGN510	463.0750	PS
JEFFERSON	ALTON OCHSNER MEDICAL FOUNDATI	KGN510	463.1000	PS
JEFFERSON	ALTON OCHSNER MEDICAL FOUNDATI	KGN510	463.1500	PS
JENNINGS	JENNINGS AMERICAN LEGION HOSPI	KYF436	155.2650	PS
JENNINGS	JENNINGS AMERICAN LEGION HOSPI	KYF436	155.3400	PS
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	866.0125	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	866.0500	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	866.5125	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	866.5750	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	867.0125	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	867.1000	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	867.5125	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	868.0125	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	868.4625	YF
LONG BRIDG	AVOYELLES PARISH COMMUNICATION	WPHI423	868.9625	YF
MINDEN	WEBSTER PARISH COMMUNICATIONS	WPHJ764	158.8200	PL
NEW ROADS	NEW ROADS, CITY OF	KNBJ896	39.1800	PL
NEW ROADS	NEW ROADS, CITY OF	KNBJ896	39.5000	PL
NEW ROADS	NEW ROADS, CITY OF	KNBJ896	151.1300	PL
NEW ROADS	NEW ROADS, CITY OF	KNBJ896	155.8950	PL
ROBELINE	NATCHITOCHES, PARISH OF	KNIQ490	156.2400	PL
SAINT JOSE	SAINT JOSEPH, CITY OF	WNSN309	154.9800	PL

Massachusetts

	AMERICAN RED CROSS	WPHM783	155.2650	PS
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
	NORTHBOROUGH, TOWN OF	KD40247	453.0625	PP
	NORTHBOROUGH, TOWN OF	KD40247	453.0875	PP
	NORTHBOROUGH, TOWN OF	KD40247	453.5625	PP
ASHBURNHAM	ASHBURNHAM, TOWN OF	WNKJ574	39.2200	PP
ASHBURNHAM	ASHBURNHAM, TOWN OF	WNKJ574	39.3400	PP
BARNSTABLE	MASSACHUSETTS, COMMONWEALTH OF	WPCZ320	858.2375	GP
BELCHERTOW	BELCHERTOWN, TOWN OF	KUG782	158.8200	PL
BOSTON	BOSTON, CITY OF	WPHN862	460.4750	PP
BOSTON	BOSTON, CITY OF	WPHN862	465.4750	PP
BOSTON	MASS PORT AUTHORITY	KNJV240	453.9000	PL
BOSTON	MASSACHUSETTS TURNPIKE AUTHORI	WPHN861	159.0300	PP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
CHARLTON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.3625	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.6375	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.6625	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.8875	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.9125	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	858.3625	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	859.2875	YP
FALL RIVER	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	859.8375	YP
GEORGETOWN	GEORGETOWN, TOWN OF	WIM451	484.2625	PP
GEORGETOWN	GEORGETOWN, TOWN OF	WIM451	487.2625	PP
GEORGETOWN	MASSACHUSETTS, COMMONWEALTH OF	WPCZ320	858.2375	GP
GREENFIELD	FRANKLIN, COUNTY OF	KMA289	155.3400	PM
GREENFIELD	FRANKLIN, COUNTY OF	KMA289	155.3850	PM
HARVARD	HARVARD, TOWN OF	KC5154	33.7000	PF
MEDWAY	MEDWAY, TOWN OF	KDX459	33.5400	PF
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
MENDON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.3625	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.6375	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.6625	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.8875	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.9125	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	858.3625	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	859.2875	YP
NORWELL	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	859.8375	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
OXFORD	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
OXFORD	OXFORD, TOWN OF	KAG535	45.5400	PP
OXFORD	OXFORD, TOWN OF	KAG535	45.5800	PP
OXFORD	OXFORD, TOWN OF	KAG535	45.7400	PP
OXFORD	OXFORD, TOWN OF	KAG535	155.0250	PP

City	Licensee	Callsign	Freq	Sr.
OXFORD	OXFORD, TOWN OF	KAG535	159.7950	PP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
PRINCETON	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.3625	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.6375	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.6625	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.8875	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	855.9125	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	858.3625	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	859.2875	YP
REHOBOTH	MASSACHUSETTS, COMMONWEALTH OF	WPHN668	859.8375	YP
SAVOY	FRANKLIN, COUNTY OF	KMA289	155.3400	PM
SAVOY	FRANKLIN, COUNTY OF	KMA289	155.3850	PM
SHELBURNE	FRANKLIN, COUNTY OF	KMA289	155.3400	PM
SHELBURNE	FRANKLIN, COUNTY OF	KMA289	155.3850	PM
SHELBURNE	FRANKLIN, COUNTY OF	KMA289	453.0125	PM
SHELBURNE	FRANKLIN, COUNTY OF	KMA289	458.0125	PM
SOUTH HADL	MASSACHUSETTS, COMMONWEALTH OF	WNZB260	853.5625	GP
WARWICK	FRANKLIN, COUNTY OF	KMA289	155.3400	PM
WARWICK	FRANKLIN, COUNTY OF	KMA289	155.3850	PM
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
WESTBOROUG	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
WESTFIELD	WESTFIELD, CITY OF	WNCX656	153.9200	PL
WESTON	MASSACHUSETTS TURNPIKE AUTHORI	WPHN861	156.0300	PP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.1625	YP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	855.6125	YP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	856.2375	YP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	857.2375	YP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	859.3625	YP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.4625	YP
WORCESTER	MASSACHUSETTS, COMMONWEALTH OF	WPHN672	860.8375	YP
WORTHINGTO	WORTHINGTON, TOWN OF	KNAN806	154.9650	PL

Maryland

	KENT, COUNTY OF	KD42534	453.9375	PP
	KENT, COUNTY OF	KD42534	458.9375	PP
BALTIMORE	MARYLAND, STATE OF	KTL460	497.3375	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	497.4375	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	497.6125	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	497.6375	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	497.7625	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	497.8125	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	497.9625	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	498.0375	PL
BALTIMORE	MARYLAND, STATE OF	KTL460	498.1625	PL
BERWYN HEI	BERWYN HEIGHTS, TOWN OF	WNSI612	154.9650	PL
EASTON	EASTON VOLUNTEER FIRE DEPARTME	WNSN428	154.3550	PF
FORT RITCH	FRANKLIN, COUNTY OF	WPHM653	453.4000	PL
FORT RITCH	FRANKLIN, COUNTY OF	WPHM653	453.8000	PL
ROCKVILLE	MONTGOMERY COUNTY GOVERNMENT	WIK619	490.5875	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.3375	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.4375	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.6125	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.6375	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.7625	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.8125	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	494.9625	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	495.0375	PL
TIMONIUM	MARYLAND, STATE OF	KTL460	495.1625	PL

Maine

	HANCOCK, TOWN OF	WPHR585	153.8300	PF
	MAINE, STATE OF	WPHR353	159.9000	PP
AUGUSTA	MAINE, STATE OF	WPHP727	47.1200	PH
AUGUSTA	MAINE, STATE OF	WPHP727	47.2200	PH
AUGUSTA	MAINE, STATE OF	WPHP727	47.3200	PH
AUGUSTA	MAINE, STATE OF	WPHP727	47.3400	PH
BELFAST	ISLESBORO, TOWN OF	KNGQ545	158.7450	PL
GRAY	M S A D 15	WNSK230	155.2950	PS
HOULTON	AROOSTOOK COUNTY EMERGENCY MAN	WGT436	457.8750	PP
KINGFIELD	MAINE SCHOOL ADMINISTRATIVE DI	WNSL215	155.2950	PS
MARIAVILLE	MARIAVILLE, TOWN OF	WNSP882	158.8800	PL
PALERMO	PALERMO, TOWN OF	WPHK488	158.8200	PL
SMYRNA	AROOSTOOK, COUNTY OF	WGT437	452.8750	PP
WESTBROOK	WESTBROOK HOUSING AUTHORITY	WPHK489	453.5750	PL
WESTBROOK	WESTBROOK HOUSING AUTHORITY	WPHK489	458.5750	PL
YORK BEACH	YORK, TOWN OF	KCC997	33.7000	PF

Michigan

	ALCONA, COUNTY OF	KFX351	159.0450	PH
	ALPENA, COUNTY OF	KQG442	39.1400	PP
	ALPENA, COUNTY OF	KQG442	39.5400	PP
	ALPENA, COUNTY OF	KQG442	39.6400	PP
	ALPENA, COUNTY OF	KQG442	39.7400	PP
	ALPENA, COUNTY OF	KQG442	39.8200	PP
	ARENAC COUNTY FIREMANS ASSOCIA	WPHH554	153.8300	PF
	BATTLE CREEK, CITY OF	KCT488	154.7550	PP
	BATTLE CREEK, CITY OF	KCT488	154.8150	PP
	BATTLE CREEK, CITY OF	KCT488	155.9700	PP
	BATTLE CREEK, CITY OF	KCT488	156.0300	PP
	BATTLE CREEK, CITY OF	KCT488	156.1500	PP
	BATTLE CREEK, CITY OF	KCT488	159.0300	PP
	BATTLE CREEK, CITY OF	KCT488	159.2100	PP
	BEDFORD TOWNSHIP FIRE DEPARTME	KQG247	154.3550	PF
	BEDFORD TOWNSHIP FIRE DEPARTME	KQG247	154.4300	PF
	CHESTERFIELD, TOWNSHIP OF	WPCN712	460.4250	PP
	CHESTERFIELD, TOWNSHIP OF	WPCN712	465.4250	PP
	FLINT, CITY OF	KN6249	453.2250	PL
	FLINT, CITY OF	KN6249	458.2250	PL
	FLINT, CITY OF	KN6249	458.6500	PL
	IOSCO, COUNTY OF	KJK533	39.1400	PP
	IOSCO, COUNTY OF	KJK533	39.6400	PP
	IOSCO, COUNTY OF	KJK533	39.7400	PP
	IOSCO, COUNTY OF	KJK533	39.8200	PP
	ISABELLA, COUNTY OF	KNBW380	453.8750	PL
	ISABELLA, COUNTY OF	KNBW380	458.8750	PL
	KALAMAZOO, CITY OF	KWY237	153.4100	IW
	MARQUETTE, COUNTY OF	KFM73	156.0600	PH
	MICHIGAN, STATE OF	WNSQ995	155.9250	PL
	MICHIGAN, STATE OF	WPHQ863	458.8375	PL
	NEW BUFFALO AREA SCHOOLS	WNSN427	155.2050	PS
	NEW BUFFALO AREA SCHOOLS	WNSN427	155.2950	PS
	RUDYARD, TOWNSHIP OF	WPHP566	153.9650	PL
	SAGINAW GENERAL HOSPITAL	WQF239	155.2800	PS
	SAGINAW GENERAL HOSPITAL	WQF239	155.3400	PS
	SCHOOL DISTRICT OF THE CITY OF	WPHP396	33.4000	IB
	SHEPHERD, VILLAGE OF	WPHN904	458.2125	PL
	STERLING HEIGHTS, CITY OF	KGW749	39.6200	PP
	STERLING HEIGHTS, CITY OF	KGW749	460.2000	PP
	STERLING HEIGHTS, CITY OF	KGW749	460.4750	PP
	STERLING HEIGHTS, CITY OF	KGW749	465.2000	PP
	STERLING HEIGHTS, CITY OF	KGW749	465.4750	PP
	SUMMIT, TOWNSHIP OF	KFF315	153.7550	PF
	SUMMIT, TOWNSHIP OF	KFF315	154.1300	PF
	SUMMIT, TOWNSHIP OF	KFF315	154.2950	PF
	SUMMIT, TOWNSHIP OF	KFF315	154.3550	PF
	TUSCOLA, COUNTY OF	WYC712	155.1750	PS
	TUSCOLA, COUNTY OF	WYC712	155.2800	PS
	UNION, TOWNSHIP OF	WNSM346	458.4750	PL
	VAN BUREN, COUNTY OF	WAF744	156.0450	PH
	VAN BUREN, COUNTY OF	WAF744	159.1350	PH
ADRIAN	JACKSON EMERGENCY MEDICAL SERV	KQZ814	155.1600	PM
ADRIAN	JACKSON EMERGENCY MEDICAL SERV	KQZ814	155.2350	PM
ALPENA	ALPENA, COUNTY OF	KQG442	39.1400	PP
ALPENA	ALPENA, COUNTY OF	KQG442	39.6400	PP
ALPENA	ALPENA, COUNTY OF	KQG442	456.2250	PP
ALPENA	ALPENA, COUNTY OF	KQG442	457.3750	PP
AUBURN	AUBURN, CITY OF	WNCR902	155.7450	PL
BANGOR	VAN BUREN, COUNTY OF	WAF744	159.1350	PH
BATTLE CRE	BATTLE CREEK, CITY OF	KCT488	154.7550	PP
BATTLE CRE	BATTLE CREEK, CITY OF	KCT488	154.8150	PP
BATTLE CRE	BATTLE CREEK, CITY OF	KCT488	154.8600	PP
BATTLE CRE	BATTLE CREEK, CITY OF	KCT488	155.3700	PP
BATTLE CRE	BATTLE CREEK, CITY OF	KCT488	155.9700	PP

City	Licensee	Callsign	Freq	Sr.
BATTLE CRE	BATTLE CREEK, CITY OF	KCT488	159.2100	PP
BAY CITY	BAY, COUNTY OF	WYG212	155.1600	PS
BAY CITY	BAY, COUNTY OF	WYG212	155.2800	PS
BIG BAY	MARQUETTE, COUNTY OF	KQB897	151.0250	PH
BIG RAPIDS	BIG RAPIDS, CITY OF	KQK536	453.7750	PL
BIG RAPIDS	BIG RAPIDS, CITY OF	KQK536	458.7750	PL
BLOOMINGDA	VAN BUREN, COUNTY OF	WAF744	156.0450	PH
BRANDT	TRI, TOWNSHIP OF	KCO343	154.2500	PF
BRANDT	TRI, TOWNSHIP OF	KCO343	154.2950	PF
CARO	TUSCOLA, COUNTY OF	WYC712	155.1750	PS
CARO	TUSCOLA, COUNTY OF	WYC712	155.2800	PS
CHESTERFIE	CHESTERFIELD, TOWNSHIP OF	WPCN712	460.4250	PP
COMSTOCK P	ALPINE, TOWNSHIP OF	WPHK603	154.9650	PL
COMSTOCK P	ALPINE, TOWNSHIP OF	WPHK603	155.7750	PL
DANSVILLE	DANSVILLE AGRICULTURAL SCHOOLS	WPHN437	155.2200	PS
DETROIT	DETROIT MEDICAL CENTER	KTO511	163.2500	PS
DETROIT	DETROIT, CITY OF	KJS706	158.8050	PL
DETROIT	DETROIT, CITY OF	KQE664	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF382	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF489	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF490	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF491	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF492	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF493	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF494	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF495	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF496	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF497	154.3100	PF
DETROIT	DETROIT, CITY OF	KQF499	154.3100	PF
DETROIT	DETROIT, CITY OF	KTR616	155.1600	PS
DETROIT	WAYNE, COUNTY OF	WXB878	153.9050	PL
DRAYTON PL	WATERFORD, TOWNSHIP OF	KJH268	155.1900	PP
DRAYTON PL	WATERFORD, TOWNSHIP OF	KJH268	155.3700	PP
DRAYTON PL	WATERFORD, TOWNSHIP OF	KJH268	155.7300	PP
DRAYTON PL	WATERFORD, TOWNSHIP OF	KJH268	155.8650	PP
DRAYTON PL	WATERFORD, TOWNSHIP OF	KJH268	460.0500	PP
DRAYTON PL	WATERFORD, TOWNSHIP OF	KJH268	465.0500	PP
DUNDEE	JACKSON EMERGENCY MEDICAL SERV	KQZ814	155.1750	PM
DUNDEE	JACKSON EMERGENCY MEDICAL SERV	KQZ814	155.2350	PM
EAST LANSI	MICHIGAN STATE UNIVERSITY	KGT632	155.3700	PP
EAST LANSI	MICHIGAN STATE UNIVERSITY	KVU501	154.1000	PL
ESCANABA	ESCANABA, CITY OF	KNCT540	154.7550	PP
ESCANABA	ESCANABA, CITY OF	KNCT540	155.3700	PP
ESCANABA	ESCANABA, CITY OF	KNCT540	155.4150	PP
ESCANABA	ESCANABA, CITY OF	KNCT540	155.9700	PP
ESCANABA	ESCANABA, CITY OF	KNCT540	158.9100	PP
FARMINGTON	FARMINGTON, CITY OF	KDJ576	154.4300	PF
FARMINGTON	FARMINGTON, CITY OF	KQA549	154.8450	PP
FARMINGTON	FARMINGTON, CITY OF	KQA549	155.3700	PP
FARMINGTON	FARMINGTON, CITY OF	KQA549	155.4150	PP
FARMINGTON	FARMINGTON, CITY OF	KSO556	154.0550	PL
FELCH	MICHIGAN, STATE OF	KQF776	44.6400	PO
FELCH	MICHIGAN, STATE OF	KQF776	44.7200	PO
FELCH	MICHIGAN, STATE OF	KQF776	44.8000	PO
FELCH	MICHIGAN, STATE OF	KQF776	44.8400	PO
GERMFASK	MICHIGAN, STATE OF	KQJ401	44.6400	PO
GERMFASK	MICHIGAN, STATE OF	KQJ401	44.7200	PO
GERMFASK	MICHIGAN, STATE OF	KQJ401	44.8000	PO
GERMFASK	MICHIGAN, STATE OF	KQJ401	44.8400	PO
GRAND RAPI	GRAND RAPIDS, TOWNSHIP OF	WPHM417	154.9950	PL
GRAND RAPI	WALKER, CITY OF	WNHP738	153.8450	PL
GRAND RAPI	WALKER, CITY OF	WNHP738	155.1450	PL
GRANT	MUSKEGON CENTRAL DISPATCH	WNPM703	457.4000	PL
HOLTON	MUSKEGON CENTRAL DISPATCH	WNPM703	457.4500	PL
ISHPEMING	MARQUETTE, COUNTY OF	KFM74	156.0600	PH
JACKSON	DOCTORS HOSPITAL	WPHH550	155.3400	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.0000	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.0250	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.0500	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.0750	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.1000	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.1250	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.1500	PM
JACKSON	DOCTORS HOSPITAL	WPHH550	463.1750	PM
JACKSON	JACKSON EMERGENCY MEDICAL SERV	KQZ814	155.1600	PM
JACKSON	JACKSON EMERGENCY MEDICAL SERV	KQZ814	155.2350	PM
JACKSON	JACKSON, COUNTY OF	KQD836	155.3100	PP
JACKSON	JACKSON, COUNTY OF	KQD836	155.3700	PP
JACKSON	JACKSON, COUNTY OF	KQD836	155.5950	PP
JACKSON	SUMMIT, TOWNSHIP OF	KFF315	154.1300	PF

City	Licensee	Callsign	Freq	Sr.
KALAMAZOO	KALAMAZOO, CITY OF	KWY237	153.4100	IW
KALAMAZOO	KALAMAZOO, CITY OF	KWY237	158.2500	IW
KINGSLEY	KINGSLEY, VILLAGE OF	WPHK648	453.2500	PL
KINGSLEY	KINGSLEY, VILLAGE OF	WPHK648	458.2500	PL
LACHINE	ALPENA, COUNTY OF	KQG442	39.5400	PP
LACHINE	ALPENA, COUNTY OF	KQG442	39.6400	PP
LACHINE	ALPENA, COUNTY OF	KQG442	39.8200	PP
LACHINE	ALPENA, COUNTY OF	KQG442	451.2250	PP
LACHINE	ALPENA, COUNTY OF	KQG442	452.3750	PP
LACHINE	ALPENA, COUNTY OF	KQG442	452.9000	PP
LINCOLN	ALCONA, COUNTY OF	KFX351	151.0100	PH
LUDINGTON	MICHIGAN, STATE OF	KFF398	44.6400	PO
LUDINGTON	MICHIGAN, STATE OF	KFF398	44.7200	PO
LUDINGTON	MICHIGAN, STATE OF	KFF398	44.8000	PO
LUDINGTON	MICHIGAN, STATE OF	KFF398	44.8400	PO
LUDINGTON	MICHIGAN, STATE OF	KFF398	44.8800	PO
MANISTEE	MICHIGAN, STATE OF	KFF398	44.6400	PO
MANISTEE	MICHIGAN, STATE OF	KFF398	44.7200	PO
MANISTEE	MICHIGAN, STATE OF	KFF398	44.8000	PO
MANISTEE	MICHIGAN, STATE OF	KFF398	44.8400	PO
MANISTEE	MICHIGAN, STATE OF	KFF398	44.8800	PO
MEARS	MICHIGAN, STATE OF	KFF398	44.6400	PO
MEARS	MICHIGAN, STATE OF	KFF398	44.7200	PO
MEARS	MICHIGAN, STATE OF	KFF398	44.8000	PO
MEARS	MICHIGAN, STATE OF	KFF398	44.8400	PO
MEARS	MICHIGAN, STATE OF	KFF398	44.8800	PO
MILFORD	DEARBORN, CITY OF	KQI922	453.0500	PL
MILFORD	DEARBORN, CITY OF	KQI922	458.0500	PL
MONROE	MONROE, CITY OF	KQK234	155.8800	PL
MOUNT CLEM	MACOMB, COUNTY OF	KQD219	159.1800	PH
MOUNT CLEM	MACOMB, COUNTY OF	WNYJ806	156.1200	PH
MOUNT CLEM	MACOMB, COUNTY OF	WNYJ806	159.1950	PH
MOUNT PLEA	ISABELLA, COUNTY OF	KNBW380	453.8750	PL
MOUNT PLEA	UNION, TOWNSHIP OF	WNSM346	453.4750	PL
MUNISING	MICHIGAN, STATE OF	WNSQ995	155.9250	PL
MUSKEGON	MUSKEGON CENTRAL DISPATCH	WNPM703	452.4000	PL
MUSKEGON	MUSKEGON CENTRAL DISPATCH	WNPM703	452.4500	PL
MUSKEGON	MUSKEGON CENTRAL DISPATCH	WNPM703	452.8250	PL
MUSKEGON	MUSKEGON, COUNTY OF	KRP880	151.0250	PH
NEGAUNEE	NEGAUNEE, CITY OF	WQF669	155.7150	PL
NEW BALTIM	NEW BALTIMORE, CITY OF	KRJ706	37.2600	PL
NEW BALTIM	NEW BALTIMORE, CITY OF	WAE685	465.1500	PP
NEW BALTIM	NEW BALTIMORE, CITY OF	WAE685	465.2500	PP
NEW BUFFAL	NEW BUFFALO AREA SCHOOLS	WNSN427	155.2050	PS
NILES	NILES COMMUNITY SCHOOLS	KBJ892	155.1600	PS
PARADISE	MICHIGAN, STATE OF	KFF394	44.6400	PO
PARADISE	MICHIGAN, STATE OF	KFF394	44.7200	PO
PARADISE	MICHIGAN, STATE OF	KFF394	44.8000	PO
PARADISE	MICHIGAN, STATE OF	KFF394	44.8400	PO
PENTWATER	MICHIGAN, STATE OF	KFF398	44.6400	PO
PENTWATER	MICHIGAN, STATE OF	KFF398	44.7200	PO
PENTWATER	MICHIGAN, STATE OF	KFF398	44.8000	PO
PENTWATER	MICHIGAN, STATE OF	KFF398	44.8400	PO
PENTWATER	MICHIGAN, STATE OF	KFF398	44.8800	PO
PONTIAC	GROVELAND, TOWNSHIP OF	WQH334	154.4300	PF
RAPID RIVE	ESCANABA, CITY OF	KNCT540	155.4150	PP
ROSEBUSH	ISABELLA, COUNTY OF	KNBW380	453.8750	PL
SAGINAW	MICHIGAN, STATE OF	KQI321	44.6400	PO
SAGINAW	MICHIGAN, STATE OF	KQI321	44.7200	PO
SAGINAW	MICHIGAN, STATE OF	KQI321	44.8000	PO
SAGINAW	MICHIGAN, STATE OF	KQI321	44.8400	PO
SAGINAW	SAGINAW GENERAL HOSPITAL	WQF239	155.2800	PS
SAGINAW	SAGINAW GENERAL HOSPITAL	WQF239	155.3400	PS
SAGINAW	TRI, TOWNSHIP OF	KCO343	154.2500	PF
SAGINAW	TRI, TOWNSHIP OF	KCO343	154.2950	PF
SAINT CHAR	TRI, TOWNSHIP OF	KCO343	154.2500	PF
SAINT CHAR	TRI, TOWNSHIP OF	KCO343	154.2950	PF
SHELBY	MICHIGAN, STATE OF	WNSO608	44.6400	PO
SHELBY	MICHIGAN, STATE OF	WNSO608	44.7200	PO
SHELBY	MICHIGAN, STATE OF	WNSO608	44.8000	PO
SHELBY	MICHIGAN, STATE OF	WNSO608	44.8400	PO
STANTON	MONTCALM CO E M S	WNYC871	463.0250	PM
STANTON	MONTCALM CO E M S	WNYC871	463.0750	PM
STANTON	MONTCALM CO E M S	WNYC871	463.1500	PM
STANTON	MONTCALM CO E M S	WNYC871	463.1750	PM
STERLING H	STERLING HEIGHTS, CITY OF	KGW749	39.9000	PP
STERLING H	STERLING HEIGHTS, CITY OF	KGW749	155.3700	PP
STERLING H	STERLING HEIGHTS, CITY OF	KGW749	460.2000	PP
STERLING H	STERLING HEIGHTS, CITY OF	KGW749	460.4750	PP
STERLING H	STERLING HEIGHTS, CITY OF	KGW749	465.1500	PP

City	Licensee	Callsign	Freq	Sr.
STERLING H	STERLING HEIGHTS, CITY OF	KSZ435	154.1300	PF
STERLING H	STERLING HEIGHTS, CITY OF	KSZ435	460.6250	PF
TAWAS CITY	IOSCO, COUNTY OF	KJK533	39.1400	PP
TAWAS CITY	IOSCO, COUNTY OF	KJK533	39.6400	PP
TAWAS CITY	IOSCO, COUNTY OF	KJK533	39.8200	PP
TECUMSEH	TECUMSEH, CITY OF	WPHN984	155.0250	PL
TEMPERANCE	BEDFORD TOWNSHIP FIRE DEPARTME	KQG247	154.3550	PF
TEMPERANCE	BEDFORD TOWNSHIP FIRE DEPARTME	KQG247	154.4300	PF
TROY	TROY, CITY OF	KQD359	154.8000	PP
TROY	TROY, CITY OF	KQD359	154.8450	PP
TROY	TROY, CITY OF	KQD359	155.3700	PP
TROY	TROY, CITY OF	KQD359	155.4300	PP
TROY	TROY, CITY OF	KQD359	155.5950	PP
TROY	TROY, CITY OF	KQD359	159.1350	PP
VANDERBILT	MICHIGAN, STATE OF	WQD251	44.6400	PO
VANDERBILT	MICHIGAN, STATE OF	WQD251	44.7200	PO
VANDERBILT	MICHIGAN, STATE OF	WQD251	44.8000	PO
VANDERBILT	MICHIGAN, STATE OF	WQD251	44.8400	PO
WAKEFIELD	MICHIGAN, STATE OF	KQA429	44.6400	PO
WAKEFIELD	MICHIGAN, STATE OF	KQA429	44.7200	PO
WAKEFIELD	MICHIGAN, STATE OF	KQA429	44.8000	PO
WAKEFIELD	MICHIGAN, STATE OF	KQA429	44.8400	PO
WALDRON	WALDRON, VILLAGE OF	KNAJ298	33.7800	PF
WALDRON	WALDRON, VILLAGE OF	KNAJ298	154.2950	PF
WALDRON	WALDRON, VILLAGE OF	KNAJ298	154.3400	PF
WALKER	WALKER, CITY OF	WNHP738	151.3100	PL
WALKER	WALKER, CITY OF	WNHP738	153.8450	PL
WALKER	WALKER, CITY OF	WNHP738	155.1000	PL
WALKER	WALKER, CITY OF	WNHP738	155.1450	PL
WALKER	WALKER, CITY OF	WNHP738	159.2550	PL
WALLED LAK	WALLED LAKE, CITY OF	WPHR677	155.8350	PL
WATERFORD	WATERFORD SCHOOL DISTRICT	WZN237	155.2050	PS
WESTLAND	WESTLAND, CITY OF	WQF721	154.3700	PF
WHITEHALL	MUSKEGON CENTRAL DISPATCH	WNPM703	457.8250	PL

Minnesota

	MINNESOTA, STATE OF	WPHR204	458.4625	PH
	MORRISON, COUNTY OF	KYL817	153.9800	PL
	SILICA, TOWNSHIP OF	KB68091	154.0100	PF
	SILICA, TOWNSHIP OF	KB68091	154.2950	PF
	SWIFT, COUNTY OF	KB73109	159.4500	PO
	TODD, COUNTY OF	KBR984	155.4750	PP
	TODD, COUNTY OF	KBR984	155.8500	PP
BARNUM	BARNUM, CITY OF	KNEZ403	154.2950	PF
BERTHA	TODD, COUNTY OF	WNZL398	154.2650	PF
CARVER	CARVER, COUNTY OF	KJL699	155.9850	PL
COLOGNE	CARVER, COUNTY OF	KJL699	155.9850	PL
DULUTH	DULUTH TECHNICAL COLLEGE AIRCR	WNQP751	154.2950	PF
DULUTH	DULUTH TECHNICAL COLLEGE AIRCR	WNQP751	154.3550	PF
DULUTH	DULUTH, CITY OF	KAA939	154.7100	PP
DULUTH	DULUTH, CITY OF	KAA939	154.7700	PP
DULUTH	DULUTH, CITY OF	KAA939	155.3700	PP
DULUTH	DULUTH, CITY OF	KAA939	155.4750	PP
DULUTH	DULUTH, CITY OF	KAA939	155.5950	PP
DULUTH	DULUTH, CITY OF	KAA939	155.6400	PP
ELIZABETH	ELIZABETH, TOWN OF	WQC482	154.2950	PF
ELIZABETH	ELIZABETH, TOWN OF	WQC482	154.4450	PF
ELY	SAINT LOUIS, COUNTY OF	WNMJ927	155.6400	PP
GHEEN	SAINT LOUIS, COUNTY OF	WNMJ927	155.6400	PP
GREY EAGLE	TODD, COUNTY OF	WPET532	458.8000	PP
JANESVILLE	MINNESOTA, STATE OF	KAH777	154.9350	PP
JANESVILLE	MINNESOTA, STATE OF	KAH777	155.3700	PP
JANESVILLE	MINNESOTA, STATE OF	KAH777	155.4750	PP
LA PORTE	LA PORTE, CITY OF	WNSL457	154.3700	PF
LONG PRAIR	TODD, COUNTY OF	WNZL398	154.2650	PF
MINNEAPOLI	UNIVERSITY OF MINNESOTA	KVZ667	45.6600	PP
MINNEAPOLI	UNIVERSITY OF MINNESOTA	KVZ667	465.2750	PP
NEW ULM	MINNESOTA, STATE OF	KAH777	154.9350	PP
SAINT CLOU	STEARNS, COUNTY OF	WPHJ769	453.9500	PP
SAINT CLOU	STEARNS, COUNTY OF	WPHJ769	458.9500	PP
SAINT PETE	SAINT PETER, CITY OF	WNSR464	154.2500	PF
TYLER	TYLER, CITY OF	WPHH518	453.6250	PL
TYLER	TYLER, CITY OF	WPHH518	458.6250	PL

Missouri

	DOCTORS REGIONAL MEDICAL CENTE	KIU902	155.2650	PS
	DOCTORS REGIONAL MEDICAL CENTE	KIU902	155.2800	PS
	DOCTORS REGIONAL MEDICAL CENTE	KIU902	155.3400	PS
	DOCTORS REGIONAL MEDICAL CENTE	KIU902	458.0250	PS
	LINCOLN COUNTY AMBULANCE DISTR	KYO284	155.3400	PS
	LINCOLN COUNTY AMBULANCE DISTR	KYO285	453.9375	PL
	NEVADA CITY HOSPITAL	WQI272	155.3400	PS
	SAINT CHARLES COUNTY RESCUE &	WNQB954	155.2950	PS
	ST FRANCOIS CO AMBULANCE DISTR	KON266	155.2050	PS
	ST FRANCOIS CO AMBULANCE DISTR	KON266	155.3400	PS
	WAYLAND VOLUNTEER FIRE PROTECT	WPAH408	154.0100	PF
	WAYLAND VOLUNTEER FIRE PROTECT	WPAH408	154.2050	PF
	WAYLAND VOLUNTEER FIRE PROTECT	WPAH408	154.2800	PF
BOLIVAR	RAINS & MARTIN INC	WPHK358	155.2800	PS
BRANSON	BRANSON, CITY OF	KRT736	155.4750	PP
BRANSON	BRANSON, CITY OF	KRT736	155.7900	PP
BRANSON	BRANSON, CITY OF	KRT736	155.9100	PP
BRANSON	BRANSON, CITY OF	KRT736	460.1750	PP
BRANSON	BRANSON, CITY OF	KRT736	460.3000	PP
BRANSON	BRANSON, CITY OF	KRT736	460.4750	PP
BRANSON	BRANSON, CITY OF	KRT736	465.3000	PP
BRANSON	BRANSON, CITY OF	KRT736	465.4750	PP
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	155.2200	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	155.3400	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.0000	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.0250	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.0500	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.0750	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.1000	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.1250	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.1500	PS
CHESTERFIE	MISSOURI HOSPITAL ASSOCIATION	KYN886	463.1750	PS
CLARENCE	CLARENCE, CITY OF	WPHM421	155.7750	PL
CLIMAX SPR	COFFMAN BEND FIRE ASSOCIATION	WNQE768	154.3850	PF
EL DORADO	MITCHELL, BRYAN L	WPHM374	155.2950	PS
FARMINGTON	MISSOURI, STATE OF	WNIP974	155.4750	PP
FARMINGTON	MISSOURI, STATE OF	WNIP974	156.2100	PP
GRANDVIEW	GRANDVIEW, CITY OF	WNCU661	155.0400	PL
KAHOKA	WAYLAND VOLUNTEER FIRE PROTECT	WPAH408	154.2050	PF
KAHOKA	WAYLAND VOLUNTEER FIRE PROTECT	WPAH408	154.2800	PF
KEARNEY	KEARNEY, CITY OF	KBY941	155.4750	PP
KEARNEY	KEARNEY, CITY OF	KBY941	155.6550	PP
KEARNEY	KEARNEY, CITY OF	KBY941	155.7300	PP
KIRKSVILLE	KIRKSVILLE, CITY OF	KUZ888	153.7850	PL
KIRKSVILLE	KIRKSVILLE, CITY OF	KUZ888	153.9950	PL
KIRKSVILLE	KIRKSVILLE, CITY OF	KUZ888	158.7450	PL
LEES SUMMI	LEES SUMMIT, CITY OF	KAJ606	159.0900	PP
LIBERAL	LIBERAL, CITY OF	KRV357	155.3700	PP
LIBERAL	LIBERAL, CITY OF	KRV357	155.4750	PP
LIBERAL	LIBERAL, CITY OF	KRV357	155.7300	PP
POPLAR BLU	POPLAR BLUFF, CITY OF	KXK945	154.2800	PF
SAINT CHAR	SAINT CHARLES COUNTY RESCUE &	WNQB954	155.2950	PS
SAVANNAH	SAVANNAH RURAL FIRE PROTECTION	WNCX594	154.1450	PF
SENECA	SENECA AREA FIRE PROTECTION DI	WPHM393	154.2200	PF
SENECA	SENECA AREA FIRE PROTECTION DI	WPHM393	159.0450	PF
SPRINGFIEL	GREENE, COUNTY OF	WNCR903	155.1450	PL
STOVER	MORGAN, COUNTY OF	WPHK660	153.8150	PP
STOVER	MORGAN, COUNTY OF	WPHK660	155.6400	PP
STRAFFORD	GREENE, COUNTY OF	WNCR903	155.7600	PL
UNIONVILLE	PUTNAM CO FIRE & RESCUE	WPHI697	154.2200	PF
VERSAILLES	MORGAN, COUNTY OF	WPHK660	153.8150	PP
VERSAILLES	MORGAN, COUNTY OF	WPHK660	155.6400	PP
WILLARD	GREENE, COUNTY OF	WNCR903	153.9350	PL
WILLARD	GREENE, COUNTY OF	WNCR903	153.9650	PL
WILLARD	GREENE, COUNTY OF	WNCR903	153.9800	PL
WILLARD	GREENE, COUNTY OF	WNCR903	155.9250	PL

Mississippi

	BOLIVAR, COUNTY OF	WAM898	153.9350	PL
	BOLIVAR, COUNTY OF	WAM898	155.0250	PL
	BOLIVAR, COUNTY OF	WPBH661	154.9500	PP
	BOLIVAR, COUNTY OF	WPBH661	155.4750	PP
	BOLIVAR, COUNTY OF	WPBH661	155.4900	PP
	BOLIVAR, COUNTY OF	WPBH661	155.7300	PP
	BOLIVAR, COUNTY OF	WPBH661	159.1500	PP
	DE SOTO, COUNTY OF	WNQV644	153.8150	PL

City	Licensee	Callsign	Freq	Sr.
	GEORGE COUNTY HOSPITAL	KRE462	155.2200	PS
	GEORGE COUNTY HOSPITAL	KRE462	155.3400	PS
	MONTGOMERY, COUNTY OF	WPHJ757	154.0850	PP
	MONTGOMERY, COUNTY OF	WPHJ757	154.7850	PP
	MONTGOMERY, COUNTY OF	WPHJ757	155.0700	PP
	MONTGOMERY, COUNTY OF	WPHJ757	155.4900	PP
	MONTGOMERY, COUNTY OF	WPHJ757	155.8500	PP
	MONTGOMERY, COUNTY OF	WPHJ757	156.0300	PP
	MONTGOMERY, COUNTY OF	WPHJ757	158.9250	PP
	RICHTON, TOWN OF	KNCZ328	45.2200	PP
	RICHTON, TOWN OF	KNCZ328	45.3800	PP
	RICHTON, TOWN OF	KNCZ328	45.4200	PP
ACKERMAN	CHOCTAW COUNTY CIVIL DEFENSE C	WYP820	45.9200	PS
CLEVELAND	BOLIVAR, COUNTY OF	WAM898	155.0250	PL
CLEVELAND	BOLIVAR, COUNTY OF	WPBH661	159.1500	PP
CLINTON	CLINTON, CITY OF	WNSL635	46.4400	PF
COLUMBUS	MISSISSIPPI, STATE OF	WPHK495	44.9600	PO
COLUMBUS	MISSISSIPPI, STATE OF	WPHK495	45.0000	PO
COLUMBUS	MISSISSIPPI, STATE OF	WPHK495	45.0400	PO
DUCK HILL	MONTGOMERY, COUNTY OF	WPHJ757	155.4900	PP
DUCK HILL	MONTGOMERY, COUNTY OF	WPHJ757	155.8500	PP
DUCK HILL	MONTGOMERY, COUNTY OF	WPHJ757	156.0300	PP
DUCK HILL	MONTGOMERY, COUNTY OF	WPHJ757	158.9250	PP
HATTIESBUR	MISSISSIPPI, STATE OF	WPHK495	44.9600	PO
HATTIESBUR	MISSISSIPPI, STATE OF	WPHK495	45.0000	PO
HATTIESBUR	MISSISSIPPI, STATE OF	WPHK495	45.0400	PO
HOLLANDALE	MISSISSIPPI, STATE OF	WPHK495	44.9600	PO
HOLLANDALE	MISSISSIPPI, STATE OF	WPHK495	45.0000	PO
HOLLANDALE	MISSISSIPPI, STATE OF	WPHK495	45.0400	PO
IUKA	MISSISSIPPI, STATE OF	WPHK495	44.9600	PO
IUKA	MISSISSIPPI, STATE OF	WPHK495	45.0000	PO
IUKA	MISSISSIPPI, STATE OF	WPHK495	45.0400	PO
JACKSON	MISSISSIPPI, STATE OF	WPHK495	44.9600	PO
JACKSON	MISSISSIPPI, STATE OF	WPHK495	45.0000	PO
JACKSON	MISSISSIPPI, STATE OF	WPHK495	45.0400	PO
KILMICHAEL	MONTGOMERY, COUNTY OF	WPHJ757	155.4900	PP
KILMICHAEL	MONTGOMERY, COUNTY OF	WPHJ757	155.8500	PP
KILMICHAEL	MONTGOMERY, COUNTY OF	WPHJ757	156.0300	PP
KILMICHAEL	MONTGOMERY, COUNTY OF	WPHJ757	158.9250	PP
MC COMB	MISSISSIPPI, STATE OF	WPHK495	44.9600	PO
MC COMB	MISSISSIPPI, STATE OF	WPHK495	45.0000	PO
MC COMB	MISSISSIPPI, STATE OF	WPHK495	45.0400	PO
NESBIT	DE SOTO, COUNTY OF	WNQV644	155.8350	PL
PHILADELPH	MISSISSIPPI BAND OF CHOCTAW IN	WPHJ758	151.2950	PL
PHILADELPH	MISSISSIPPI BAND OF CHOCTAW IN	WPHJ758	154.1150	PL
PHILADELPH	PHILADELPHIA, CITY OF	WQD442	154.1600	PF
PITTSBORO	CALHOUN, COUNTY OF	KLD826	45.2200	PP
RICHLAND	RICHLAND, CITY OF	KBZ450	45.4200	PP
RICHLAND	RICHLAND, CITY OF	KBZ450	45.6200	PP
RICHLAND	RICHLAND, CITY OF	WNBE588	453.6500	PL
RIPLEY	TIPPAH COUNTY HOSPITAL	KZE580	155.3400	PS
RIPLEY	TIPPAH COUNTY HOSPITAL	KZE580	155.4000	PS
RULEVILLE	RULEVILLE, CITY OF	KDY449	45.2200	PP
TUTWILER	TUTWILER, TOWN OF	WNSI615	155.7150	PL
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	154.0850	PP
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	154.7850	PP
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	155.0700	PP
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	155.4900	PP
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	155.8500	PP
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	156.0300	PP
WINONA	MONTGOMERY, COUNTY OF	WPHJ757	158.9250	PP

Montana

	CARBON, COUNTY OF	WNSQ508	156.1950	PH
	CARBON, COUNTY OF	WNSQ508	158.9850	PH
	DEER LODGE, COUNTY OF	KNAR496	155.2800	PM
	DEER LODGE, COUNTY OF	KNAR496	155.3400	PM
	DEER LODGE, COUNTY OF	KNAR496	155.3850	PM
	FALLON, COUNTY OF	WNCV739	155.7150	PL
ANACONDA	DEER LODGE, COUNTY OF	KNAR496	155.2800	PM
ANACONDA	DEER LODGE, COUNTY OF	KNAR496	155.3850	PM
ANACONDA	DEER LODGE, COUNTY OF	KNAR496	452.1500	PM
ANACONDA	DEER LODGE, COUNTY OF	KNAR496	457.1500	PM
BUTTE	DEER LODGE, COUNTY OF	WPHP679	153.9800	PL
BUTTE	DEER LODGE, COUNTY OF	WPHP679	158.8350	PL
CUT BANK	GLACIER, COUNTY OF	WNSQ556	155.7150	PL
GERALDINE	CHOUTEAU COUNTY ROAD DIST 3	WRW388	156.1800	PH
LIVINGSTON	PARK, COUNTY OF	WPHK627	154.8600	PP
LIVINGSTON	PARK, COUNTY OF	WPHK627	155.3700	PP
LUSTRE	LUSTRE GRADE SCHOOL DIST 3	WPHR713	155.2200	PS
SIDNEY	RICHLAND, COUNTY OF	WPHM425	155.8200	PL

North Carolina

	CHARLOTTE, CITY OF	KB72708	458.4750	PL
	COMMUNITY GENERAL HOSPITAL OF	KSZ744	155.3850	PS
	CRAVEN, COUNTY OF	WGJ344	156.2100	PP
	DURHAM, CITY OF	KXM654	453.3000	PL
	DURHAM, CITY OF	KXM654	453.5000	PL
	DURHAM, CITY OF	KXM654	453.5250	PL
	DURHAM, CITY OF	KXM654	453.7000	PL
	DURHAM, CITY OF	KXM654	453.7500	PL
	DURHAM, CITY OF	KXM654	453.9000	PL
	DURHAM, CITY OF	KXM654	458.5250	PL
	DURHAM, CITY OF	KXM654	458.7000	PL
	DURHAM, CITY OF	KXM654	458.7500	PL
	DURHAM, CITY OF	KXM654	458.9000	PL
	FAIRFIELD MOUNTAINS VOL FIRE D	KGJ730	154.2050	PF
	HENDERSON, CITY OF	KNGB490	153.9500	PF
	HENDERSON, CITY OF	KNGB490	154.3550	PF
	MACON, COUNTY OF	WPHN440	150.7750	PM
	MACON, COUNTY OF	WPHN440	155.3250	PM
	ROBERSONVILLE, CITY OF	WNSL460	154.1450	PF
	TRAMWAY RURAL FIRE DEPARTMENT	WSV422	154.0100	PF
ANDREWS	NORTH CAROLINA, STATE OF	WPHM258	854.9875	GP
ASHEVILLE	BILTMORE FOREST, TOWN OF	KNGB485	153.9050	PL
ASHEVILLE	BILTMORE FOREST, TOWN OF	KNGB485	155.8800	PL
ASHEVILLE	BILTMORE FOREST, TOWN OF	KNGB485	155.9400	PL
ASHEVILLE	NORTH CAROLINA, STATE OF	WPHM258	859.7375	GP
AULANDER	NORTH CAROLINA, STATE OF	WPHM255	851.2625	GP
BEACH MOUN	NORTH CAROLINA, STATE OF	WPHM254	855.4875	GP
BELHAVEN	NORTH CAROLINA, STATE OF	WPHM259	854.7125	GP
BILTMORE F	BILTMORE FOREST, TOWN OF	KNGB485	153.9050	PL
BILTMORE F	BILTMORE FOREST, TOWN OF	KNGB485	155.9400	PL
BOLIVIA	NORTH CAROLINA, STATE OF	WPHM253	853.0375	GP
BOONE	NORTH CAROLINA, STATE OF	WPHM254	852.8375	GP
BREVARD	NORTH CAROLINA, STATE OF	WPHM258	857.7375	GP
BRINKLEYVI	NORTH CAROLINA, STATE OF	WPHM255	852.2375	GP
BURNSVILLE	NORTH CAROLINA, STATE OF	WPHM254	855.7375	GP
BURNSVILLE	YANCEY, COUNTY OF	WNSH847	453.8250	PL
CHOCOWINIT	NORTH CAROLINA, STATE OF	WPHM255	855.9625	GP
CLINTON	NORTH CAROLINA, STATE OF	WPHM260	853.3625	GP
CLYDE	NORTH CAROLINA, STATE OF	WPHM258	856.7375	GP
COLUMBUS	NORTH CAROLINA, STATE OF	WPHM257	855.9625	GP
DELCO	NORTH CAROLINA, STATE OF	WPHM253	855.2125	GP
DURHAM	DURHAM, CITY OF	KXM654	453.5000	PL
DURHAM	DURHAM, CITY OF	KXM654	453.9000	PL
ELIZABETHT	NORTH CAROLINA, STATE OF	WPHM260	855.7375	GP
ELLERBE	NORTH CAROLINA, STATE OF	WPHM256	854.0125	GP
FAYETTEVIL	MONSANTO COMPANY	WQF462	155.2800	PS
FAYETTEVIL	NORTH CAROLINA, STATE OF	WPHM256	851.5875	GP
FAYETTEVIL	NORTH CAROLINA, STATE OF	WPHM256	852.0625	GP
FRANKLIN	MACON, COUNTY OF	WPHN440	155.3250	PM
FRANKLIN	NORTH CAROLINA, STATE OF	WPHM258	855.7375	GP
GASTONIA	NORTH CAROLINA, STATE OF	WPHM257	853.7125	GP
GREENVILLE	NORTH CAROLINA, STATE OF	WPHM255	854.9625	GP
HIGHLANDS	MACON, COUNTY OF	WPHN440	155.3250	PM
HOLLY RIDG	NORTH CAROLINA, STATE OF	WPHM253	853.8625	GP
JACKSONVIL	NORTH CAROLINA, STATE OF	WPHM253	855.4875	GP
JEFFERSON	NORTH CAROLINA, STATE OF	WPHM254	855.9625	GP
KENANSVILL	NORTH CAROLINA, STATE OF	WPHM260	852.1125	GP
KINSTON	NORTH CAROLINA, STATE OF	WPHM259	853.4125	GP
LAKE LURE	FAIRFIELD MOUNTAINS VOL FIRE D	KGJ730	154.2050	PF
LAURINBURG	NORTH CAROLINA, STATE OF	WPHM256	855.2125	GP
LENOIR	NORTH CAROLINA, STATE OF	WPHM257	860.7125	GP
LINVILLE	NORTH CAROLINA, STATE OF	WPHM254	855.7125	GP
MANNS HARB	NORTH CAROLINA, STATE OF	WNFU250	458.3000	PH
MANNS HARB	NORTH CAROLINA, STATE OF	WNFU250	458.9000	PH
MARSHALL	NORTH CAROLINA, STATE OF	WPHM257	855.4625	GP
MEBANE	MEBANE, CITY OF	WPHM413	155.6700	PP
MEBANE	MEBANE, TOWN OF	WNGQ460	153.7550	PL
MEBANE	MEBANE, TOWN OF	WNGQ460	153.7750	PL
MEBANE	MEBANE, TOWN OF	WNGQ460	155.6850	PL
MOREHEAD C	NORTH CAROLINA, STATE OF	WPHM259	855.7375	GP
MURPHY	NORTH CAROLINA, STATE OF	WPHM257	860.2375	GP
NAKINA	NORTH CAROLINA, STATE OF	WPHM260	855.4875	GP
NEW BERN	NORTH CAROLINA, STATE OF	WPHM259	854.6375	GP

City	Licensee	Callsign	Freq	Sr.
OCRACOKE	NORTH CAROLINA, STATE OF	WPHM259	855.4625	GP
PEACHLAND	PEACHLAND VOL FIRE DISTRICT	WPHK429	154.2950	PF
PENDERLEA	NORTH CAROLINA, STATE OF	WPHM260	855.4625	GP
PLYMOUTH	NORTH CAROLINA, STATE OF	WPHM255	853.1375	GP
PROCTORVIL	NORTH CAROLINA, STATE OF	WPHR642	159.4200	PO
RALEIGH	WAKE, COUNTY OF	WPHN855	460.1750	PP
RALEIGH	WAKE, COUNTY OF	WPHN855	465.1750	PP
SAINT PAUL	NORTH CAROLINA, STATE OF	WPHM256	853.0125	GP
SOUTHERN P	NORTH CAROLINA, STATE OF	WPHM256	852.1125	GP
SPARTA	NORTH CAROLINA, STATE OF	WPHM254	855.2375	GP
STANLEY	STANLEY, TOWN OF	WPHR569	453.8500	PL
STANLEY	STANLEY, TOWN OF	WPHR569	458.8500	PL
SUPPLY	NORTH CAROLINA, STATE OF	WPHM253	854.9625	GP
SWANQUARTE	NORTH CAROLINA, STATE OF	WPHM259	852.1125	GP
THOMASVILL	THOMASVILLE, CITY OF	WPHN960	72.3000	PL
TOXAWAY	NORTH CAROLINA, STATE OF	WPHM257	855.9875	GP
VANCEBORO	VANCEBORO VOL FIRE DEPT	WPHK431	154.3100	PF
WAYNESVILL	NORTH CAROLINA, STATE OF	WPHM258	858.7375	GP
WHITEVILLE	NORTH CAROLINA, STATE OF	WPHM260	854.9875	GP
WILLIAMSTO	NORTH CAROLINA, STATE OF	WPHM255	852.3625	GP
WILMINGTON	NORTH CAROLINA, STATE OF	WPHM253	855.7125	GP

North Dakota

	HARWOOD RESCUE & FIRE	WNDA434	155.2050	PS
NEW TOWN	NEWTOWN, CITY OF	WPHI800	46.5800	PL

Nebraska

	HOLDREGE VET CLINIC PC	KAJ828	47.6200	PS
	SALINE, COUNTY OF	WQI567	39.8200	PP
	SALINE, COUNTY OF	WQI567	39.9000	PP
	SALINE, COUNTY OF	WQI567	39.9800	PP
BASSETT	BASSETT, CITY OF	KYB900	39.9800	PL
HOOPER	HOOPER, CITY OF	KNJT279	39.8200	PL
HOOPER	HOOPER, CITY OF	KNJT279	39.9000	PL
HOOPER	HOOPER, CITY OF	KNJT279	453.2000	PL

New Hampshire

	NEW HAMPSHIRE, STATE OF	WPHM697	155.8050	PP
	NEW HAMPSHIRE, STATE OF	WPHM697	156.2100	PP
	NEW HAMPSHIRE, STATE OF	WPHM697	158.9700	PP
BOW	NEW HAMPSHIRE, STATE OF	KRO244	453.9750	PL
EXETER	EXETER, TOWN OF	WPHN551	158.7900	PP
GREENVILLE	GREENVILLE, TOWN OF	KKR624	155.5650	PP
LANCASTER	NEW HAMPSHIRE, STATE OF	WPHM697	155.8050	PP
LANCASTER	NEW HAMPSHIRE, STATE OF	WPHM697	156.2100	PP
LANCASTER	NEW HAMPSHIRE, STATE OF	WPHM697	158.9700	PP
MERRIMACK	MERRIMACK TOWN OF	WNTZ233	928.0687	PL
MERRIMACK	MERRIMACK TOWN OF	WNTZ233	952.0687	PL
SUNAPEE	SUNAPEE, TOWN OF	WNHJ511	155.7150	PL
TAMWORTH	TAMWORTH, TOWN OF	WPHM775	154.1750	PF
TAMWORTH	TAMWORTH, TOWN OF	WPHM775	154.2050	PF
TAMWORTH	TAMWORTH, TOWN OF	WPHM775	154.3400	PF
WATERVILLE	WATERVILLE COMPANY INC	WPHI691	155.2650	PS
WILTON	GREENVILLE, TOWN OF	KKR624	155.5650	PP

New Jersey

	ATLANTIC, COUNTY OF	KGN564	154.6800	PP
	ATLANTIC, COUNTY OF	KGN564	155.0100	PP
	ATLANTIC, COUNTY OF	KGN564	155.4750	PP
	ATLANTIC, COUNTY OF	KGN564	156.0900	PP
	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.2200	PF
	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.2650	PF
	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.2950	PF
	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.3550	PF
	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.4300	PF
	CAPE MAY COUNTY MUNICIPAL UTIL	WPHP219	458.4750	PL
	FLORHAM PARK FIRE DEPARTMENT	WPHM381	453.2375	PF
	FLORHAM PARK FIRE DEPARTMENT	WPHM381	458.2375	PF
	HUNTERDON, COUNTY OF	WNMD643	153.7550	PL
	HUNTERDON, COUNTY OF	WNMD643	158.9550	PL
	KEARNY, TOWN OF	KEA245	158.8800	PP
	MANTUA, TOWNSHIP OF	KLK628	158.9700	PP
	MANTUA, TOWNSHIP OF	KLK628	159.0300	PP
	NEW PROVIDENCE, BOROUGH OF	WPHM377	453.4125	PF
	NEW PROVIDENCE, BOROUGH OF	WPHM377	453.8875	PF
	NEW PROVIDENCE, BOROUGH OF	WPHM377	458.4125	PF
	NEW PROVIDENCE, BOROUGH OF	WPHM377	458.8875	PF
	WARREN, COUNTY OF	WPHQ856	458.3500	PP
	WARREN, COUNTY OF	WPHR676	156.0150	PP
	WASHINGTON, TOWNSHIP OF	WQN244	154.3250	PF
	WOODCLIFF LAKE, BOROUGH OF	WPHR379	151.2650	PF
	WOODCLIFF LAKE, BOROUGH OF	WPHR379	154.2200	PF
ALLAMUCHY	ALLAMUCHY, TOWNSHIP OF	WNCY387	453.2500	PL
BELVIDERE	WARREN, COUNTY OF	WPHQ856	453.3500	PP
BELVIDERE	WARREN, COUNTY OF	WPHR676	158.1600	PP
BLAIRSTOWN	WARREN, COUNTY OF	WPHQ856	453.3500	PP
BLAIRSTOWN	WARREN, COUNTY OF	WPHR676	158.1600	PP
CAPE MAY	LOWER, TOWNSHIP OF	KYU937	155.8200	PL
CAPE MAY C	CAPE MAY COUNTY MUNICIPAL UTIL	WPHP219	453.4750	PL
CARLSTADT	CARLSTADT, BOROUGH OF	KCN856	154.0100	PF
CARLSTADT	CARLSTADT, BOROUGH OF	KCN856	154.1600	PF
CARLSTADT	CARLSTADT, BOROUGH OF	KCN856	154.2800	PF
CARLSTADT	CARLSTADT, BOROUGH OF	KCN856	154.2950	PF
CARLSTADT	CARLSTADT, BOROUGH OF	KYY915	158.9100	PP
CARLSTADT	CARLSTADT, BOROUGH OF	KYY915	158.9700	PP
DEMAREST	DEMAREST, BOROUGH OF	KBS937	154.7100	PP
DEMAREST	DEMAREST, BOROUGH OF	KBS937	155.1300	PP
DEMAREST	DEMAREST, BOROUGH OF	KBS937	155.4300	PP
EAST ORANG	ESSEX VALLEY MEDICAL TRANSPORT	WNLI739	155.2050	PM
EAST ORANG	ESSEX VALLEY MEDICAL TRANSPORT	WNLI739	155.2650	PM
EAST ORANG	ESSEX VALLEY MEDICAL TRANSPORT	WNLI739	155.2950	PM
GLEN GARDN	HUNTERDON, COUNTY OF	WNMD643	154.9650	PL
HARDYSTON	HARDYSTON, TOWNSHIP OF	WNDY962	155.9100	PP
HARDYSTON	HARDYSTON, TOWNSHIP OF	WNDY962	158.7900	PP
HOPEWELL T	HOPEWELL, TOWNSHIP OF	KYW959	155.5200	PP
JACKSON	JACKSON TWP FIRST AID SQUAD IN	WZU228	155.2050	PS
JACKSON	JACKSON TWP FIRST AID SQUAD IN	WZU228	155.2350	PS
JACKSON	JACKSON TWP FIRST AID SQUAD IN	WZU228	155.2800	PS
MANSFIELD	WARREN, COUNTY OF	WPHQ856	453.3500	PP
MANSFIELD	WARREN, COUNTY OF	WPHR676	158.1600	PP
MEDFORD	MEDFORD, TOWNSHIP OF	WIK615	506.3125	PL
MOUNT OLIV	MOUNT OLIVE, TOWNSHIP OF	WNSQ510	47.6200	PS
NEPTUNE	NEPTUNE HOUSING AUTHORITY	WPHP722	158.8350	PL
PARK RIDGE	WOODCLIFF LAKE, BOROUGH OF	WPHR379	154.2200	PF
PROSPECT P	PROSPECT PARK, BOROUGH OF	KGL591	46.4600	PF
RIO GRANDE	LOWER, TOWNSHIP OF	KYU937	155.8200	PL
ROCHELLE P	ROCHELLE PARK, TOWNSHIP OF	WNCM701	460.4500	PP
ROCHELLE P	ROCHELLE PARK, TOWNSHIP OF	WNCM701	465.4500	PP
SEASIDE PA	SEASIDE PARK, BORO OF	WPHN547	460.2250	PP
SEASIDE PA	SEASIDE PARK, BORO OF	WPHN547	465.2250	PP
SHORT HILL	MILLBURN, TOWNSHIP OF	KNDL385	155.6550	PP
STANHOPE	STANHOPE HOSE CO 1	KEO262	46.4000	PF
TRENTON	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.2200	PF
TRENTON	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.2650	PF
TRENTON	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.2950	PF
TRENTON	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.3550	PF
TRENTON	BOARD OF FIRE COMMISSIONERS DI	KEE600	154.4300	PF
WYCKOFF	WYCKOFF, TOWNSHIP OF	KEB440	156.0900	PP
WYCKOFF	WYCKOFF, TOWNSHIP OF	KEB440	158.7300	PP

New Mexico

	LINCOLN, COUNTY OF	WPHP216	155.8350	PL
	LINCOLN, COUNTY OF	WPHP216	158.7900	PL
ALBUQUERQU	NEW MEXICO, STATE OF	KD36753	453.8500	PL
ALBUQUERQU	NEW MEXICO, STATE OF	KD36753	458.8500	PL
ALBUQUERQU	NEW MEXICO, STATE OF	WZT831	453.2500	PL
ANGEL FIRE	ANGEL FIRE SEARCH AND RESCUE	WPHQ875	155.1750	PS
DULCE	NEW MEXICO, STATE OF	KZB325	463.0000	PS
DULCE	NEW MEXICO, STATE OF	KZB325	463.0500	PS
DULCE	NEW MEXICO, STATE OF	KZB325	463.1500	PS
DULCE	NEW MEXICO, STATE OF	KZB325	463.1750	PS
LAS CRUCES	NEW MEXICO, STATE OF	WNCX588	453.8750	PL
RUIDOSO DO	LINCOLN, COUNTY OF	WPHP216	155.8350	PL

City	Licensee	Callsign	Freq	Sr.
	Nevada			
ELY	ELY, CITY OF	WPHM590	173.3375	IW
LOVELOCK	LOVELOCK, CITY OF	WPHP308	173.2875	IW
RENO	WASHOE, COUNTY OF	WPHI283	173.2375	IW
SMITH	CALIFORNIA, STATE OF	WPCA855	860.9875	GP
	New York			
	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	153.9500	PF
	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.1750	PF
	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.2500	PF
	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.3100	PF
	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.3850	PF
	DUNKIRK, CITY & TOWN OF	WPHM575	451.2375	IW
	GENESEE, COUNTY OF	WYC615	453.8000	PH
	JEFFERSON, COUNTY OF	KNDK966	46.0800	PF
	JEFFERSON, COUNTY OF	KNDK966	46.1800	PF
	JEFFERSON, COUNTY OF	KNDK966	46.2200	PF
	JEFFERSON, COUNTY OF	KNDK966	46.4000	PF
	LANCASTER, TOWN OF	KNEF386	155.3700	PP
	LANCASTER, TOWN OF	KNEF386	155.5800	PP
	LANCASTER, TOWN OF	KNEF386	155.6550	PP
	LANCASTER, TOWN OF	KNEF386	155.7300	PP
	LANCASTER, VILLAGE OF	KEE455	155.3700	PP
	LANCASTER, VILLAGE OF	KEE455	155.5800	PP
	LANCASTER, VILLAGE OF	KEE455	155.6550	PP
	LANCASTER, VILLAGE OF	KEE455	155.7300	PP
	LANCASTER, VILLAGE OF	KEE455	155.9700	PP
	NEW YORK, STATE OF	KVD786	453.2250	PL
	NEW YORK, STATE OF	KVD786	458.2250	PL
	NEW YORK, STATE OF	WNCY217	155.3700	PP
	NEW YQRK, STATE OF	WNCY217	458.8875	PP
	OLEAN, CITY OF	WNCT983	155.3700	PP
	ONEIDA COUNTY MUTUAL AID FIRE	WPHM647	154.2800	PF
	ONEIDA COUNTY MUTUAL AID FIRE	WPHM647	154.2950	PF
	OTSEGO, COUNTY OF	KNDD853	46.0400	PS
	OTSEGO, COUNTY OF	KNDD853	155.2350	PS
	OTSEGO, COUNTY OF	KNDD853	155.3400	PS
	OTSEGO, COUNTY OF	KNDD853	155.4000	PS
	POESTENKILL FIRE CO INC	WPHN530	46.3000	PF
	POWER AUTHORITY OF THE STATE O	KB72800	458.2000	PL
	SPECULATOR, VILLAGE OF	WPDH566	453.0125	PL
	WAYLAND, VILLAGE OF	WPHM410	451.6375	IW
	YATES, COUNTY OF	KED654	45.8800	PF
	YATES, COUNTY OF	KED654	46.2200	PF
	YATES, COUNTY OF	KED654	46.2400	PF
	YATES, COUNTY OF	KED654	46.3000	PF
	YATES, COUNTY OF	KED654	46.5000	PF
ADAMS	JEFFERSON, COUNTY OF	KNDK966	46.1800	PF
BAYSHORE	TOWNE BUS CORP	WNSO570	47.8400	PS
BLUE MOUNT	NEW YORK, STATE OF	WNTZ246	959.4000	PL
CHAUMONT	LYME CENTRAL SCHOOL DISTRICT	KIG679	155.2350	PS
EVANS MILL	JEFFERSON, COUNTY OF	KNDK966	46.1800	PF
FRANKLIN S	FRANKLIN SQUARE & MUNSON FIRE	KEC563	46.2000	PF
FRANKLIN S	FRANKLIN SQUARE & MUNSON FIRE	KEC563	46.2200	PF
FRANKLIN S	FRANKLIN SQUARE & MUNSON FIRE	KEC563	46.3200	PF
FRANKLIN S	FRANKLIN SQUARE & MUNSON FIRE	KEC563	153.8900	PF
LEW BEACH	BEAVERKILL VALLEY FIRE DISTRIC	WPHM772	46.1000	PF
NEW YORK	NEW YORK, STATE OF	KVD786	453.2250	PL
NEWCOMB	NEWCOMB, TOWN OF	WPGI774	45.0600	PL
NEWCOMB	NEWCOMB, TOWN OF	WPGI774	46.5800	PL
OCEAN BEAC	OCEAN BEACH, VILLAGE OF	KNAX730	46.3800	PF
OCEAN BEAC	OCEAN BEACH, VILLAGE OF	KNAX730	46.4400	PF
OCEAN BEAC	OCEAN BEACH, VILLAGE OF	KNAX730	46.4600	PF
OCEAN BEAC	OCEAN BEACH, VILLAGE OF	KNAX730	460.6000	PF
PENN YAN	YATES, COUNTY OF	KED654	45.8800	PF
PENN YAN	YATES, COUNTY OF	KED654	46.2400	PF
PENN YAN	YATES, COUNTY OF	KED654	46.5000	PF
PITTSFORD	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.1750	PF
PITTSFORD	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.2500	PF
PITTSFORD	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.3100	PF
PITTSFORD	BUSHNELLS BASIN FIRE ASSOC INC	KEH802	154.3850	PF
SAINT JAME	TOWNE BUS CORP	WNSO570	47.8400	PS
SCHAGHTICO	SCHAGHTICOKE, TOWN OF	KRJ661	151.1300	PH
SHERRILL	SHERRILL, CITY OF	WNDD438	154.1300	PF
SOUTH BRIS	NEW YORK, STATE OF	WNTZ247	959.0000	PL
TARRYTOWN	TARRYTOWN TRANSPORTATION	WPHQ861	47.6200	PS
TROY	SAINT MARYS HOSPITAL	KYO271	155.2800	PS
TROY	SAINT MARYS HOSPITAL	KYO271	155.3400	PS
TROY	SAINT MARYS HOSPITAL	KYO271	155.4000	PS
TUPPER LAK	TUPPER LAKE CENTRAL SCHOOL	WNSH587	155.2350	PS
VESTAL	VESTAL, TOWN OF	KBH356	153.8900	PF
VESTAL	VESTAL, TOWN OF	KBH356	154.3550	PF
VESTAL	VESTAL, TOWN OF	KBH356	453.0500	PF
VESTAL	VESTAL, TOWN OF	KBH356	458.0500	PF
WEATHERSFI	NEW YORK, STATE OF	WNTZ248	955.4000	PL
WEST MARTI	NEW YORK, STATE OF	WNTZ245	955.8000	PL
WESTHAMPTO	WESTHAMPTON BEACH, VILLAGE OF	WYW928	156.0300	PP
WESTHAMPTO	WESTHAMPTON BEACH, VILLAGE OF	WYW928	159.0300	PP
	Ohio			
	BEAVER, TOWNSHIP OF	WNRR565	154.3250	PF
	BELLEVUE HOSPITAL INC	KNFL498	155.1600	PM
	BELLEVUE HOSPITAL INC	KNFL498	155.1750	PM
	BELLEVUE HOSPITAL INC	KNFL498	155.2200	PM
	BELLEVUE HOSPITAL INC	KNFL498	155.2800	PM
	BELLEVUE HOSPITAL INC	KNFL498	155.3400	PM
	BELLEVUE HOSPITAL INC	KNFL498	155.3550	PM
	BELLEVUE HOSPITAL INC	KNFL498	155.4000	PM
	DARKE, COUNTY OF	WPHR574	156.1500	PP
	ERIE, TOWNSHIP OF	WPHN438	453.5125	PL
	ERIE, TOWNSHIP OF	WPHN438	458.5125	PL
	JEFFERSON, COUNTY OF	WPHM479	866.1625	YF
	JEFFERSON, COUNTY OF	WPHM479	866.4125	YF
	JEFFERSON, COUNTY OF	WPHM479	868.2375	YF
	JEFFERSON, COUNTY OF	WPHM479	868.6625	YF
	LANCASTER, CITY OF	KAY867	155.9400	PL
	SHALERSVILLE, TOWNSHIP OF	WPHR688	153.8450	PL
	THORNVILLE EMERGENCY SQUAD	WNCU658	155.2200	PS
	THORNVILLE EMERGENCY SQUAD	WNCU658	155.2650	PS
	THORNVILLE EMERGENCY SQUAD	WNCU658	155.3400	PS
	TRI DIVISION AMBULANCE DISTRIC	KA69110	155.3400	PS
	UNION, COUNTY OF	WNMM295	159.0300	PP
ATTICA	SENECA, COUNTY OF	KNDY262	154.4300	PF
BASCOM	SENECA, COUNTY OF	KNDY262	154.4300	PF
BELLAIRE	BELLAIRE, CITY OF	WPHM773	465.6250	PF
BELLEVUE	BELLEVUE HOSPITAL INC	KNFL498	155.2800	PM
BELLEVUE	BELLEVUE HOSPITAL INC	KNFL498	155.3400	PM
BELLEVUE	BELLEVUE HOSPITAL INC	KNFL498	155.3550	PM
BELLEVUE	BELLEVUE HOSPITAL INC	KNFL498	155.4000	PM
BURKETTSVI	BURKETTSVILLE, VILLAGE OF	WNXI861	154.0700	PF
BURKETTSVI	BURKETTSVILLE, VILLAGE OF	WNXI861	154.1600	PF
BURKETTSVI	BURKETTSVILLE, VILLAGE OF	WNXI861	154.1900	PF
BURKETTSVI	BURKETTSVILLE, VILLAGE OF	WNXI861	154.3100	PF
BURKETTSVI	BURKETTSVILLE, VILLAGE OF	WNXI861	154.4300	PF
CHESTERHIL	CHESTERHILL VOL FIRE DEPT INC	KVZ537	33.6800	PF
CHESTERHIL	CHESTERHILL VOL FIRE DEPT INC	KVZ537	33.8600	PF
CHESTERHIL	CHESTERHILL VOL FIRE DEPT INC	KVZ537	153.8300	PF
CHESTERLAN	CHESTER, TOWNSHIP OF	KUI547	158.7450	PL
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	462.9500	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	462.9750	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.0000	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.0250	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.0500	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.0750	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.1000	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.1250	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.1500	PM
CINCINNATI	SYCAMORE, TOWNSHIP OF	WNRZ751	463.1750	PM
CLEVELAND	CUYAHOGA METROPOLITAN HOUSING	KTG731	453.7750	PL
CLEVELAND	CUYAHOGA METROPOLITAN HOUSING	KTG731	453.8250	PL
CONVOY	CONVOY, VILLAGE OF	KMO659	153.8750	PL
CONVOY	CONVOY, VILLAGE OF	KMO659	155.8950	PL
DAYTON	DAYTON, CITY OF	KBK841	151.0400	PH
EAST SPRIN	JEFFERSON, COUNTY OF	WPHM479	866.1625	YF
EAST SPRIN	JEFFERSON, COUNTY OF	WPHM479	866.4125	YF
EAST SPRIN	JEFFERSON, COUNTY OF	WPHM479	868.2375	YF
EAST SPRIN	JEFFERSON, COUNTY OF	WPHM479	868.6625	YF
EAST SPRIN	JEFFERSON, COUNTY OF	WPHR563	452.5500	PL
HILLSBORO	HIGHLAND CO HILLS & DALES TRAI	WNDA522	155.2350	PS
IRONTON	LAWRENCE, COUNTY OF	KCW381	458.0375	PP
KNOXVILLE	JEFFERSON, COUNTY OF	WPHM479	866.1625	YF
KNOXVILLE	JEFFERSON, COUNTY OF	WPHM479	866.4125	YF
KNOXVILLE	JEFFERSON, COUNTY OF	WPHM479	868.2375	YF
KNOXVILLE	JEFFERSON, COUNTY OF	WPHM479	868.6625	YF
KNOXVILLE	JEFFERSON, COUNTY OF	WPHR563	452.5500	PL

City	Licensee	Callsign	Freq	Sr.
LANCASTER	LANCASTER, CITY OF	WNSP719	462.9500	PS
LIMA	ALLEN, COUNTY OF	WNSN432	460.1750	PP
MANSFIELD	AMERICAN NATIONAL RED CROSS	WPHM389	47.6600	PS
MANSFIELD	ONTARIO, VILLAGE OF	KWI613	155.0850	PP
MANSFIELD	ONTARIO, VILLAGE OF	KWI613	155.5200	PP
MANSFIELD	ONTARIO, VILLAGE OF	KWI613	158.9100	PP
MANSFIELD	ONTARIO, VILLAGE OF	KWI613	458.1625	PP
MARYSVILLE	UNION, COUNTY OF	WNMM295	155.1300	PP
MAUMEE	MAUMEE, CITY OF	KSO594	460.3750	PP
MAUMEE	MAUMEE, CITY OF	KSO594	460.4500	PP
MAUMEE	MAUMEE, CITY OF	KSO594	465.3750	PP
MAUMEE	MAUMEE, CITY OF	KSO594	465.4000	PP
NORTH ROYA	NORTH ROYALTON, CITY OF	WNUL677	37.2600	PL
OLD FORT	SENECA, COUNTY OF	KNDY262	46.0600	PF
OLD FORT	SENECA, COUNTY OF	KNDY262	154.4300	PF
ONTARIO	ONTARIO, VILLAGE OF	KWI613	155.5200	PP
ONTARIO	ONTARIO, VILLAGE OF	KWI613	155.9100	PP
ONTARIO	ONTARIO, VILLAGE OF	KWI613	458.1625	PP
OTTAWA HIL	OTTAWA HILLS, CITY OF	WPHN992	453.2750	PL
OTTAWA HIL	OTTAWA HILLS, CITY OF	WPHN992	458.2750	PL
SANDUSKY	ERIE, COUNTY OF	WPHH566	453.2500	PH
SANDUSKY	ERIE, COUNTY OF	WPHH566	458.2500	PH
SMITHFIELD	JEFFERSON, COUNTY OF	WPHM479	866.1625	YF
SMITHFIELD	JEFFERSON, COUNTY OF	WPHM479	866.4125	YF
SMITHFIELD	JEFFERSON, COUNTY OF	WPHM479	868.2375	YF
SMITHFIELD	JEFFERSON, COUNTY OF	WPHM479	868.6625	YF
SMITHFIELD	JEFFERSON, COUNTY OF	WPHR563	452.5500	PL
SOUTH POIN	OHIO, STATE OF	KQD534	44.7400	PP
SOUTH POIN	OHIO, STATE OF	KQD534	45.0200	PP
SOUTH POIN	OHIO, STATE OF	KQD534	45.1000	PP
SOUTH POIN	OHIO, STATE OF	KQD534	154.6800	PP
SOUTH POIN	OHIO, STATE OF	KQD534	154.9350	PP
SOUTH POIN	OHIO, STATE OF	KQD534	155.3700	PP
SOUTH POIN	OHIO, STATE OF	KQD534	155.4750	PP
STEUBENVIL	JEFFERSON, COUNTY OF	WPHM479	866.1625	YF
STEUBENVIL	JEFFERSON, COUNTY OF	WPHM479	866.4125	YF
STEUBENVIL	JEFFERSON, COUNTY OF	WPHM479	868.2375	YF
STEUBENVIL	JEFFERSON, COUNTY OF	WPHM479	868.6625	YF
STEUBENVIL	JEFFERSON, COUNTY OF	WPHR563	452.5500	PL
STOW	STOW, CITY OF	KSQ754	153.8450	PL
STOW	STOW, CITY OF	KSQ754	155.0850	PL
TOLEDO	LUCAS, COUNTY OF	WPHN988	453.2500	PL
TOLEDO	LUCAS, COUNTY OF	WPHN988	458.2500	PL
UNIONTOWN	UNIONTOWN, CITY OF	KJL562	154.2950	PF
UNIONTOWN	UNIONTOWN, CITY OF	KJL562	154.4300	PF
WAUSEON	WAUSEON, CITY OF	KTX754	155.3700	PP

Oklahoma

	BEAVER, COUNTY OF	WPHR375	155.2350	PS
	PERRY, CITY OF	WNMF684	154.6500	PP
BEAVER	BEAVER, COUNTY OF	WPHR375	155.2350	PS
BINGER	OKLAHOMA, STATE OF	WPHK353	151.0250	PH
BINGER	OKLAHOMA, STATE OF	WPHK353	151.0400	PH
BINGER	OKLAHOMA, STATE OF	WPHK353	151.1000	PH
BINGER	OKLAHOMA, STATE OF	WPHK353	151.1300	PH
BOISE CITY	OKLAHOMA, STATE OF	WPHK353	151.0250	PH
BOISE CITY	OKLAHOMA, STATE OF	WPHK353	151.0400	PH
BOISE CITY	OKLAHOMA, STATE OF	WPHK353	151.1000	PH
BOISE CITY	OKLAHOMA, STATE OF	WPHK353	151.1150	PH
BOISE CITY	OKLAHOMA, STATE OF	WPHK353	151.1300	PH
BOYD	OKLAHOMA, STATE OF	WPHN849	151.0400	PH
BOYD	OKLAHOMA, STATE OF	WPHN849	151.1000	PH
BOYD	OKLAHOMA, STATE OF	WPHN849	151.1300	PH
BUFFALO	OKLAHOMA, STATE OF	WPHN849	151.0400	PH
BUFFALO	OKLAHOMA, STATE OF	WPHN849	151.1300	PH
CALUMET	OKLAHOMA, STATE OF	WPHK350	151.1300	PH
CHEYENNE	OKLAHOMA, STATE OF	WPHK350	151.0400	PH
CHEYENNE	OKLAHOMA, STATE OF	WPHK350	151.1000	PH
CHEYENNE	OKLAHOMA, STATE OF	WPHK350	151.1300	PH
DEL CITY	MID DEL SCHOOLS ISD 52 CAMPUS	WPHJ765	154.8450	PP
ENID	GARFIELD, COUNTY OF	WPHK676	155.5950	PP
EVA	OKLAHOMA, STATE OF	WPHN849	151.0250	PH
EVA	OKLAHOMA, STATE OF	WPHN849	151.0400	PH
EVA	OKLAHOMA, STATE OF	WPHN849	151.1000	PH
EVA	OKLAHOMA, STATE OF	WPHN849	151.1150	PH
EVA	OKLAHOMA, STATE OF	WPHN849	151.1300	PH
GROVE	GROVE, CITY OF	WPHM592	173.3962	IW
HEADLTON	HEALDTON, CITY OF	WXQ391	155.7150	PL
HOBART	OKLAHOMA, STATE OF	WPHK350	151.0250	PH
HOBART	OKLAHOMA, STATE OF	WPHK350	151.0400	PH
HOBART	OKLAHOMA, STATE OF	WPHK350	151.1000	PH
HOBART	OKLAHOMA, STATE OF	WPHK350	151.1150	PH
HOBART	OKLAHOMA, STATE OF	WPHK350	151.1300	PH
JAY	OKLAHOMA, STATE OF	WCR262	44.7000	PP
JAY	OKLAHOMA, STATE OF	WCR262	45.2200	PP
JAY	OKLAHOMA, STATE OF	WCR262	154.9200	PP
JAY	OKLAHOMA, STATE OF	WPHN848	151.0400	PH
JAY	OKLAHOMA, STATE OF	WPHN848	151.1000	PH
JAY	OKLAHOMA, STATE OF	WPHN848	151.1300	PH
LAMONT	LAMONT, CITY OF	WQF661	155.7600	PL
LIBERTY MO	LIBERTY AREA FIRE PROTECTION A	WNPU585	154.3100	PF
LIBERTY MO	LIBERTY AREA FIRE PROTECTION A	WNPU585	154.4150	PF
LIBERTY MO	LIBERTY AREA FIRE PROTECTION A	WNPU585	158.9850	PF
MANGUM	OKLAHOMA, STATE OF	WPHK350	151.0400	PH
MANGUM	OKLAHOMA, STATE OF	WPHK350	151.1000	PH
MANGUM	OKLAHOMA, STATE OF	WPHK350	151.1300	PH
MARIETTA	OKLAHOMA, STATE OF	WPHK353	151.0400	PH
MARIETTA	OKLAHOMA, STATE OF	WPHK353	151.1000	PH
MARIETTA	OKLAHOMA, STATE OF	WPHK353	151.1300	PH
MIAMI	OKLAHOMA, STATE OF	WPHN848	151.0250	PH
MIAMI	OKLAHOMA, STATE OF	WPHN848	151.0400	PH
MIAMI	OKLAHOMA, STATE OF	WPHN848	151.1000	PH
MIAMI	OKLAHOMA, STATE OF	WPHN848	151.1150	PH
MIAMI	OKLAHOMA, STATE OF	WPHN848	151.1300	PH
MIDWAY	OKLAHOMA, STATE OF	WPHN849	151.0250	PH
MIDWAY	OKLAHOMA, STATE OF	WPHN849	151.0400	PH
MIDWAY	OKLAHOMA, STATE OF	WPHN849	151.1000	PH
MIDWAY	OKLAHOMA, STATE OF	WPHN849	151.1300	PH
MIDWEST CI	MID DEL SCHOOLS ISD 52 CAMPUS	WPHJ765	154.8450	PP
MUSKOGEE	MUSKOGEE, CITY OF	WPHJ756	155.1300	PL
OKMULGEE	OMH MEDICAL CENTER INC	KXL394	153.3400	PS
OKMULGEE	OMH MEDICAL CENTER INC	KXL394	155.3400	PS
OKMULGEE	OMH MEDICAL CENTER INC	KXL394	163.2500	PS
PAULS VALL	REACT OF GARVIN COUNTY	WPHP245	155.2050	PS
PAWHUSKA	OKLAHOMA, STATE OF	WPHN848	151.0400	PH
PAWHUSKA	OKLAHOMA, STATE OF	WPHN848	151.1000	PH
PAWHUSKA	OKLAHOMA, STATE OF	WPHN848	151.1300	PH
PERRY	PERRY, CITY OF	WNMF684	154.6500	PP
RINGWOOD	OKLAHOMA, STATE OF	WPHK353	151.1000	PH
RINGWOOD	OKLAHOMA, STATE OF	WPHK353	151.1300	PH
ROOSEVELT	OKLAHOMA, STATE OF	WPHK350	151.0400	PH
ROOSEVELT	OKLAHOMA, STATE OF	WPHK350	151.1000	PH
ROOSEVELT	OKLAHOMA, STATE OF	WPHK350	151.1300	PH
RUSH SPRIN	OKLAHOMA, STATE OF	WPHK353	151.0400	PH
RUSH SPRIN	OKLAHOMA, STATE OF	WPHK353	151.1300	PH
SHIDLER	OKLAHOMA, STATE OF	WPHN848	151.0250	PH
SHIDLER	OKLAHOMA, STATE OF	WPHN848	151.0400	PH
SHIDLER	OKLAHOMA, STATE OF	WPHN848	151.1000	PH
SHIDLER	OKLAHOMA, STATE OF	WPHN848	151.1150	PH
SHIDLER	OKLAHOMA, STATE OF	WPHN848	151.1300	PH
STROUD	STROUD, CITY OF	WPHM593	154.4712	IW
TAHLEQUAH	CHEROKEE NATION OF OKLAHOMA	WPHJ771	151.0550	PL
TAHLEQUAH	CHEROKEE NATION OF OKLAHOMA	WPHJ771	159.1650	PL
TALOGA	OKLAHOMA, STATE OF	WPHK350	151.0250	PH
TALOGA	OKLAHOMA, STATE OF	WPHK350	151.0400	PH
TALOGA	OKLAHOMA, STATE OF	WPHK350	151.1000	PH
TALOGA	OKLAHOMA, STATE OF	WPHK350	151.1150	PH
TALOGA	OKLAHOMA, STATE OF	WPHK350	151.1300	PH
TEMPLE	OKLAHOMA, STATE OF	WPHN849	151.0400	PH
TEMPLE	OKLAHOMA, STATE OF	WPHN849	151.1000	PH
TEMPLE	OKLAHOMA, STATE OF	WPHN849	151.1300	PH
TISHOMINGO	TISHOMINGO ANIMAL CLINIC	WQC272	155.2800	PS
TURLEY	OKLAHOMA, STATE OF	WPHN848	151.1300	PH
VELMA	OKLAHOMA, STATE OF	WPHK353	151.0250	PH
VELMA	OKLAHOMA, STATE OF	WPHK353	151.0400	PH
VELMA	OKLAHOMA, STATE OF	WPHK353	151.1000	PH
VELMA	OKLAHOMA, STATE OF	WPHK353	151.1300	PH
WAYNOKA	OKLAHOMA, STATE OF	WPHN849	151.0400	PH
WAYNOKA	OKLAHOMA, STATE OF	WPHN849	151.1000	PH
WAYNOKA	OKLAHOMA, STATE OF	WPHN849	151.1300	PH
WEATHERFOR	WEATHERFORD, CITY OF	KKY344	154.8450	PP
WEATHERFOR	WEATHERFORD, CITY OF	KKY344	155.4900	PP
WEATHERFOR	WEATHERFORD, CITY OF	KKY344	155.6700	PP
WEATHERFOR	WEATHERFORD, CITY OF	KKY344	156.0900	PP
WEATHERFOR	WEATHERFORD, CITY OF	KQX560	153.9950	PL
WELCH	OKLAHOMA, STATE OF	WPHN848	151.0400	PH
WELCH	OKLAHOMA, STATE OF	WPHN848	151.1000	PH
WELCH	OKLAHOMA, STATE OF	WPHN848	151.1300	PH

Oregon

City	Licensee	Callsign	Freq	Sr.
	JEFFERSON, COUNTY OF	WPHM409	154.1000	PL
	MARION, COUNTY OF	KFN501	37.1800	PL
	MARION, COUNTY OF	KG4473	154.7400	PP
	MARION, COUNTY OF	KG4473	155.6400	PP
	MARION, COUNTY OF	KG4473	155.7300	PP
	TILLAMOOK, COUNTY OF	KNCW551	153.9650	PL
	TILLAMOOK, COUNTY OF	KNCW551	158.8350	PL
ALBANY	ALBANY, CITY OF	KDB403	153.8750	PL
ASTORIA	ASTORIA, CITY OF	WNSL339	154.2650	PF
BURNS	BURNS, CITY OF	WPFX642	154.1300	PF
MANZANITA	TILLAMOOK, COUNTY OF	KNCW551	153.9650	PL
MEDFORD	ROGUE VALLEY TRANSIT DISTRICT	KNGD621	453.1000	PL
MEDFORD	ROGUE VALLEY TRANSIT DISTRICT	KNGD621	453.9250	PL
MEDFORD	ROGUE VALLEY TRANSIT DISTRICT	KNGD621	458.1000	PL
MEDFORD	ROGUE VALLEY TRANSIT DISTRICT	KNGD621	458.9250	PL
NEWBERG	NEWBERG, CITY OF	KMK992	39.9800	PL
ONTARIO	DOMINICAN SISTERS OF ONTARIO I	KXU369	152.0075	PM
ONTARIO	DOMINICAN SISTERS OF ONTARIO I	KXU369	155.2350	PM
ONTARIO	DOMINICAN SISTERS OF ONTARIO I	KXU369	155.3400	PM
ONTARIO	DOMINICAN SISTERS OF ONTARIO I	KXU369	155.4000	PM
REDMOND	REDMOND, CITY OF	WQH290	150.7900	PS
REDMOND	REDMOND, CITY OF	WQH290	155.3400	PS
REDMOND	REDMOND, CITY OF	WQH290	155.4000	PS
TILLAMOOK	TILLAMOOK, COUNTY OF	KNCW551	153.9650	PL
TILLAMOOK	TILLAMOOK, COUNTY OF	KNCW551	158.8350	PL

Pennsylvania

City	Licensee	Callsign	Freq	Sr.
	AMWELL TOWNSHIP VFD	KNAG237	46.1200	PF
	AMWELL TOWNSHIP VFD	KNAG237	46.4000	PF
	AMWELL TOWNSHIP VFD	KNAG237	46.4600	PF
	AVELLA VOLUNTEER FIRE DEPARTME	KGF372	46.4000	PF
	AVELLA VOLUNTEER FIRE DEPARTME	KGF372	46.4600	PF
	AVELLA VOLUNTEER FIRE DEPARTME	KGF372	460.5125	PF
	AVELLA VOLUNTEER FIRE DEPARTME	KGF372	465.5125	PF
	CARBON, COUNTY OF	KKH285	155.2050	PM
	CARBON, COUNTY OF	KKH285	155.3400	PM
	CARBON, COUNTY OF	KNEN334	453.1000	PL
	CARBON, COUNTY OF	KNEN334	453.7250	PL
	CARBON, COUNTY OF	KNEN334	458.1000	PL
	CLINTON, COUNTY OF	KYF259	155.4900	PP
	CLINTON, COUNTY OF	KYF259	158.9700	PP
	FOXWALL EMERGENCY MEDICAL SERV	WXY212	155.2050	PS
	FOXWALL EMERGENCY MEDICAL SERV	WXY212	155.3400	PS
	FOXWALL EMERGENCY MEDICAL SERV	WXY212	155.4000	PS
	FRANKLIN, COUNTY OF	WPHM653	458.4000	PL
	FRANKLIN, COUNTY OF	WPHM653	458.8000	PL
	FRIENDSHIP HOSE CO NO 1 INC	WQC267	46.1400	PF
	GREENVILLE, BOROUGH OF	WPHM782	453.0750	PF
	GREENVILLE, BOROUGH OF	WPHM782	458.0750	PF
	GREENVILLE, BOROUGH OF	WPHM782	458.2500	PF
	GREENVILLE, BOROUGH OF	WPHM782	458.3500	PF
	GREENVILLE, BOROUGH OF	WPHM782	458.6000	PF
	HARRISBURG, CITY OF	WNSM365	460.4375	PP
	MILFORD WATER AUTHORITY	WPHR570	453.9125	PL
	MONROE, COUNTY OF	KNFA331	45.6600	PP
	MORRISVILLE AMBULANCE SQUAD	KNIW625	45.9200	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	45.9600	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	46.0400	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	150.7750	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	150.7900	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	458.0750	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	458.1250	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	462.9500	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	462.9750	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.0000	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.0250	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.0500	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.0750	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.1000	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.1250	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.1500	PM
	MORRISVILLE AMBULANCE SQUAD	KNIW625	463.1750	PM
	PHILADELPHIA, CITY OF	KN7980	153.8750	PL
	SAINT CLAIR MEMORIAL HOSPITAL	WPHP725	467.9375	PS
	SAINT CLAIR MEMORIAL HOSPITAL	WPHP725	467.9625	PS
	SAINT CLAIR MEMORIAL HOSPITAL	WPHP725	468.0875	PS
	SAINT CLAIR MEMORIAL HOSPITAL	WPHP725	468.1875	PS
	SWEDESBURG FIRE COMPANY	KB87274	33.5400	PF
ALLENTOWN	ALLENTOWN, CITY OF	WNSL213	154.7250	PP
AMITY	AMWELL TOWNSHIP VFD	KNAG237	46.1200	PF
AMITY	AMWELL TOWNSHIP VFD	KNAG237	46.4000	PF
AMITY	AMWELL TOWNSHIP VFD	KNAG237	46.4600	PF
BARNESBORO	BARR, TOWNSHIP OF	WPHM294	46.5600	PL
BRADDOCK	NORTH BRADDOCK, BOROUGH OF	WPHM297	154.0250	PL
BRADFORD	BRADFORD, TOWNSHIP OF	WPHH638	158.8500	PL
CHAMBERSBU	FRANKLIN, COUNTY OF	WPHM653	453.4000	PL
CHAMBERSBU	FRANKLIN, COUNTY OF	WPHM653	453.8000	PL
COATESVILL	CHESTER, COUNTY OF	WPHK779	856.2375	YP
COATESVILL	CHESTER, COUNTY OF	WPHK779	858.2625	YP
COATESVILL	CHESTER, COUNTY OF	WPHK779	860.4875	YP
CROYDON	CROYDON FIRE COMPANY NO 1	WIL878	506.9875	PF
CROYDON	CROYDON FIRE COMPANY NO 1	WIL878	509.9875	PF
DALTON	DALTON, BOROUGH OF	WPHN857	153.9050	PL
DRUMS	BUTLER, TOWNSHIP OF	KJJ838	154.2200	PF
DRUMS	BUTLER, TOWNSHIP OF	KJJ838	154.3250	PF
DUNMORE	SCRANTON, CITY OF	KNBT899	453.9500	PL
DUNMORE	SCRANTON, CITY OF	WPHM295	453.2000	PL
DUNMORE	SCRANTON, CITY OF	WPHM296	453.8500	PL
EAGLEVILLE	COLLEGEVILLE, BOROUGH OF	WNSN655	156.0150	PL
EFFORT	CARBON, COUNTY OF	KKH285	155.2050	PM
EFFORT	CARBON, COUNTY OF	KKH285	155.3400	PM
ELIZABETH	FORWARD TOWNSHIP VOLUNTEER FIR	WNCT924	33.0800	PS
ERIE	SAINT VINCENT HEALTH CENTER	WNQN352	453.0250	PM
FAIRMOUNT	REDBANK, TOWNSHIP OF	WPHI696	159.0150	PH
FELTON	YORK, COUNTY OF	WPHP520	151.4300	PO
FELTON	YORK, COUNTY OF	WPHP520	159.2700	PO
FOREST HIL	ALLEGHENY, COUNTY OF	WIL941	474.1375	PL
FRANKLIN	SUGARCREEK, BOROUGH OF	KNCG823	155.0400	PL
FRANKLIN	SUGARCREEK, BOROUGH OF	KNCG823	155.1150	PL
FREDONIA	GREENVILLE, BOROUGH OF	WPHM782	33.8200	PF
FREDONIA	GREENVILLE, BOROUGH OF	WPHM782	33.8800	PF
FREDONIA	GREENVILLE, BOROUGH OF	WPHM782	453.0750	PF
GLENSHAW	ALLEGHENY, COUNTY OF	WIL941	474.1375	PL
GREENVILLE	GREENVILLE, BOROUGH OF	WPHM782	33.8200	PF
GREENVILLE	GREENVILLE, BOROUGH OF	WPHM782	33.8800	PF
HANOVER	YORK, COUNTY OF	WPHP508	155.4150	PP
JIM THORPE	CARBON, COUNTY OF	KKH285	155.2050	PM
JIM THORPE	CARBON, COUNTY OF	KKH285	155.3400	PM
JIM THORPE	CARBON, COUNTY OF	KNEN334	453.7250	PL
JOHNSTOWN	PENNSYLVANIA, COMMONWEALTH OF	WXT572	453.7750	PL
JOHNSTOWN	PENNSYLVANIA, COMMONWEALTH OF	WXT572	453.8750	PL
JOHNSTOWN	PENNSYLVANIA, COMMONWEALTH OF	WXT572	453.9500	PL
JOHNSTOWN	PENNSYLVANIA, COMMONWEALTH OF	WXT572	458.6000	PL
JOHNSTOWN	PENNSYLVANIA, COMMONWEALTH OF	WXT572	458.8750	PL
JOHNSTOWN	SOMERSET, COUNTY OF	WNTZ298	958.3500	PL
KENNERDELL	VENANGO, COUNTY OF	WPHK497	33.4400	PF
KENNERDELL	VENANGO, COUNTY OF	WPHK497	33.8200	PF
KENNERDELL	VENANGO, COUNTY OF	WPHK497	154.1900	PF
KENNERDELL	VENANGO, COUNTY OF	WPHK497	154.2350	PF
KENNERDELL	VENANGO, COUNTY OF	WPHK497	154.3850	PF
KENNERDELL	VENANGO, COUNTY OF	WPHK497	154.4150	PF
LEESPORT	BERKS, COUNTY OF	WPHP691	453.5000	PL
LEESPORT	UNION FIRE CO 1	KDB374	33.9400	PF
LEWISBERRY	YORK, COUNTY OF	WPHP508	155.2500	PP
LINCOLN	ALLEGHENY, COUNTY OF	WIL941	474.1375	PL
MANSFIELD	MANSFIELD, BOROUGH OF	WYV384	45.5600	PL
MANSFIELD	MANSFIELD, BOROUGH OF	WYV384	153.7400	PL
MOUNT LEBA	ALLEGHENY, COUNTY OF	WIL941	474.1375	PL
MUNHALL	ALLEGHENY, COUNTY OF	WIL941	474.1375	PL
NESQUEHONI	CARBON, COUNTY OF	KKH285	155.2050	PM
NESQUEHONI	CARBON, COUNTY OF	KKH285	155.3400	PM
NESQUEHONI	CARBON, COUNTY OF	KNEN334	453.1000	PL
NORTH BRAD	NORTH BRADDOCK, BOROUGH OF	KEX276	154.0250	PL
NORTHAMPTO	ALLEN TOWNSHIP AMBULANCE CORPS	WNCV586	462.9750	PM
OAKDALE	ALLEGHENY, COUNTY OF	WIL941	470.4375	PL
OAKDALE	ALLEGHENY, COUNTY OF	WIL941	471.1375	PL
OIL CITY	VENANGO, COUNTY OF	WPHK497	33.4400	PF
OIL CITY	VENANGO, COUNTY OF	WPHK497	33.8200	PF
OIL CITY	VENANGO, COUNTY OF	WPHK497	154.1900	PF
OIL CITY	VENANGO, COUNTY OF	WPHK497	154.2350	PF
OIL CITY	VENANGO, COUNTY OF	WPHK497	154.3850	PF
OIL CITY	VENANGO, COUNTY OF	WPHK497	154.4150	PF
PENN HILLS	PENN HILLS, MUNICIPALITY OF	WQL950	154.4000	PF
PITTSBURGH	WESTERN PENNSYLVANIA HOSPITAL	WPHR393	155.3400	PM
PITTSBURGH	WESTERN PENNSYLVANIA HOSPITAL	WPHR393	155.4000	PM
RANKIN	RANKIN, BOROUGH OF	KGB418	156.0900	PP

City	Licensee	Callsign	Freq	Sr.
SCRANTON	SCRANTON, CITY OF	KNBT899	453.9500	PL
SCRANTON	SCRANTON, CITY OF	KNBT899	458.9500	PL
SCRANTON	SCRANTON, CITY OF	WPHM295	453.2000	PL
SCRANTON	SCRANTON, CITY OF	WPHM295	458.2000	PL
SCRANTON	SCRANTON, CITY OF	WPHM296	453.8500	PL
SCRANTON	SCRANTON, CITY OF	WPHM296	458.8500	PL
SWISSVALE	BRADDOCK MEDICAL CENTER	KNGG975	155.3400	PM
SWISSVALE	BRADDOCK MEDICAL CENTER	KNGG975	155.4000	PM
TANNERSVIL	MONROE, COUNTY OF	KNHT419	453.4250	PL
UPPER STRA	FRANKLIN, COUNTY OF	WPHM653	453.4000	PL
UPPER STRA	FRANKLIN, COUNTY OF	WPHM653	453.8000	PL
WARREN	CONEWANGO, TOWNSHIP OF	WPEJ623	151.0550	PH
WARREN	CONEWANGO, TOWNSHIP OF	WPEJ623	156.0600	PH
WATERFORD	PENNSYLVANIA, COMMONWEALTH OF	KGF497	44.8000	PO
WATERFORD	PENNSYLVANIA, COMMONWEALTH OF	KGF497	44.8400	PO
WEST MIFFL	WEST MIFFLIN, BOROUGH OF	KNIZ689	151.2200	PF
WEST MIFFL	WEST MIFFLIN, BOROUGH OF	KNIZ689	153.9500	PF
WEST MIFFL	WEST MIFFLIN, BOROUGH OF	KNIZ689	154.0700	PF
WEST MIFFL	WEST MIFFLIN, BOROUGH OF	KNIZ689	154.2500	PF
WILLIAMSPO	WILLIAMSPORT HOSPITAL & MEDICA	WSX924	150.7900	PM
WILLIAMSPO	WILLIAMSPORT HOSPITAL & MEDICA	WSX924	155.3850	PM
WILLIAMSPO	WILLIAMSPORT HOSPITAL & MEDICA	WSX924	462.9500	PM
WILLIAMSPO	WILLIAMSPORT HOSPITAL & MEDICA	WSX924	462.9750	PM
YORK	YORK, COUNTY OF	WPHP508	155.6100	PP

Rhode Island

BRISTOL	BRISTOL, CITY OF	KDU510	154.1450	PF
BRISTOL	BRISTOL, CITY OF	KDU510	154.2800	PF
LINCOLN	ALBION FIRE DISTRICT	KTB332	154.1600	PF
LINCOLN	ALBION FIRE DISTRICT	KTB332	460.6375	PF
LINCOLN	ALBION FIRE DISTRICT	KTB332	465.6375	PF

South Carolina

	DILLON COUNTY AMBULANCE SERVIC	KXM837	155.2200	PS
	MIDWAY FIRE DISTRICT	WPHM397	154.3100	PF
	MIDWAY FIRE DISTRICT	WPHM397	154.4450	PF
	OCONEE COUNTY BOARD OF RURAL F	WNSN312	154.1300	PF
	OCONEE COUNTY BOARD OF RURAL F	WNSN313	154.1300	PF
	OCONEE COUNTY RURAL FIRE CONTR	WNSN311	154.1300	PF
CHESTER	CHESTER, COUNTY OF	WPHK623	159.0450	PH
FLORENCE	FLORENCE, CITY OF	KIA244	460.2500	PP
FLORENCE	FLORENCE, CITY OF	KIA244	465.2500	PP
FLORENCE	FLORENCE, CITY OF	WXB393	453.5750	PL
IRMO	IRMO, TOWN OF	WNSH272	453.8000	PL
LOWRYS	CHESTER, COUNTY OF	WPHK623	151.1150	PH
LOWRYS	CHESTER, COUNTY OF	WPHK623	159.0450	PH
MYRTLE BEA	MYRTLE BEACH, CITY OF	KNIE485	154.1750	PF
NEWBERRY	NEWBERRY, CITY OF	KEU925	155.0850	PL
NEWBERRY	NEWBERRY, CITY OF	KEU925	452.3250	PL
NEWBERRY	NEWBERRY, CITY OF	KEU925	457.3250	PL
PAWLEYS IS	MIDWAY FIRE DISTRICT	WPHM397	154.3100	PF
PAWLEYS IS	MIDWAY FIRE DISTRICT	WPHM397	154.4450	PF
SPARTANBUR	SPARTANBURG, COUNTY OF	WPHQ876	452.3750	PL
SPARTANBUR	SPARTANBURG, COUNTY OF	WPHQ876	457.3750	PL
WESTMINSTE	WESTMINSTER, CITY OF	WNQR279	460.4750	PP
WESTMINSTE	WESTMINSTER, CITY OF	WNQR279	465.4750	PP

South Dakota

PARKER	PARKER, CITY OF	WPHP724	154.4712	PL
ROSCOE	ROSCOE, CITY OF	WNSL458	154.1300	PF
ROSCOE	ROSCOE, CITY OF	WNSL458	154.1750	PF
SIOUX FALL	MINNEHAHA, COUNTY OF	KNGG525	39.1000	PP
SIOUX FALL	MINNEHAHA, COUNTY OF	KNGG525	39.3200	PP

Tennessee

	HENRY, COUNTY OF	KNED809	155.1750	PM
	HENRY, COUNTY OF	KNED809	155.2050	PM
	HENRY, COUNTY OF	KNED809	155.3400	PM
	JOHNSON COUNTY VOLUNTEER FIRE	WNAA296	154.4450	PF
	METROPOLITAN GOVERNMENT OF NAS	KJL573	159.1350	PH
	METROPOLITAN GOVERNMENT OF NAS	KJL573	159.1650	PH
	MURFREESBORO, CITY OF	KNAH811	153.6800	IW
	MURFREESBORO, CITY OF	KNAH811	158.2500	IW
	PULASKI GILES CO RESCUE SQUAD	WPHG326	154.2350	PF
	RUTHERFORD, COUNTY OF	WPHQ774	150.7900	PM
	RUTHERFORD, COUNTY OF	WPHQ774	158.8050	PM
	TENNESSEE, STATE OF	KWJ300	155.2050	PS
	TENNESSEE, STATE OF	KWJ301	155.2050	PS
	WILSON COUNTY ROAD COMMISSION	WNSL352	156.0600	PH
BRICEVILLE	ANDERSON, COUNTY OF	WPHP510	453.0250	PL
BRICEVILLE	ANDERSON, COUNTY OF	WPHP510	453.8375	PL
BRICEVILLE	ANDERSON, COUNTY OF	WPHP510	458.0250	PL
BRICEVILLE	ANDERSON, COUNTY OF	WPHP510	458.8375	PL
CLARKSVILL	CLARKSVILLE, CITY OF	WNAV319	453.7500	PF
COLUMBIA	COLUMBIA, CITY OF	KIF409	451.0750	IW
COLUMBIA	COLUMBIA, CITY OF	KIF409	456.0750	IW
COLUMBIA	COLUMBIA, CITY OF	KIF409	456.5250	IW
GATLINBURG	SEVIER, COUNTY OF	WNYV830	460.0250	PP
MC MINNVIL	CENTERTOWN VOLUNTEER FIRE DEPT	KUX442	154.1900	PF
MEMPHIS	TENNESSEE, STATE OF	KNHU611	154.9650	PL
MEMPHIS	TENNESSEE, STATE OF	KNHU611	159.9750	PL
MURFREESBO	RUTHERFORD, COUNTY OF	WPHQ774	158.8050	PM
MURFREESBO	TENNESSEE, STATE OF	KUS530	155.0550	PL
NEWPORT	SEVIER, COUNTY OF	WNYV830	460.0250	PP
OLIVER SPR	ANDERSON, COUNTY OF	WPHP510	453.0250	PL
PARIS	HENRY, COUNTY OF	KNED809	155.1750	PM
PARIS	HENRY, COUNTY OF	KNED809	155.2050	PM
PARIS	TENNESSEE, STATE OF	WPHI695	151.1150	PH
PARIS	TENNESSEE, STATE OF	WPHI695	155.2500	PH
PARIS	TENNESSEE, STATE OF	WPHI695	156.1200	PH
PULASKI	PULASKI GILES CO RESCUE SQUAD	WPHG326	154.2350	PF
SELMER	MC NAIRY, COUNTY OF	KNIM275	155.3700	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	453.0625	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	453.6375	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	458.0625	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	458.6375	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	460.1750	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	460.4000	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	465.1750	PP
SELMER	MC NAIRY, COUNTY OF	KNIM275	465.4000	PP
SEVIERVILL	SEVIER, COUNTY OF	WNYV830	460.0250	PP
SEVIERVILL	SEVIER, COUNTY OF	WNYV830	460.2125	PP
SEVIERVILL	SEVIER, COUNTY OF	WNYV830	465.0250	PP
SEVIERVILL	SEVIER, COUNTY OF	WNYV830	465.2125	PP
SEVIERVILL	SEVIER, COUNTY OF	WNYV830	465.4000	PP
SWEETWATER	SWEETWATER, CITY OF	KAW644	37.1800	PL
WAVERLY	LIFE TECH INC	WPHK421	155.2050	PM
WAVERLY	LIFE TECH INC	WPHK421	155.3400	PM
WAVERLY	LIFE TECH INC	WPHK421	453.0125	PM
WAVERLY	LIFE TECH INC	WPHK421	458.0125	PM

Texas

	AMERICAN MEDICAL TRANSPORT	KXJ213	155.2800	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.0000	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.0250	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.0500	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.0750	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.1000	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.1250	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.1500	PS
	AMERICAN MEDICAL TRANSPORT	KXJ213	463.1750	PS
	CAMPWOOD, CITY OF	WRW711	45.9200	PS
	GRAY, COUNTY OF	KWX725	154.9500	PP
	GRAY, COUNTY OF	KWX725	155.0700	PP
	GRAY, COUNTY OF	KWX725	155.8500	PP
	KAUBLE, REESE	KYI963	155.2350	PS
	LAMESA, CITY OF	KKS926	153.9500	PF
	LAMESA, CITY OF	KKS926	154.2500	PF
	POTTER, COUNTY OF	WPHN863	156.1650	PP
	ROCKDALE, CITY OF	WPHP675	153.7700	PF
	ROCKDALE, CITY OF	WPHP675	153.8300	PF
	ROCKDALE, CITY OF	WPHP675	154.2800	PF
	ROCKDALE, CITY OF	WPHP675	154.3700	PF
	SAN JACINTO, COUNTY OF	WPBZ783	154.9500	PP
	SAN JACINTO, COUNTY OF	WPBZ783	155.6100	PP
	WEATHERFORD, CITY OF	KNBS874	155.8200	PL
ABILENE	AMERICAN MEDICAL TRANSPORT	KXJ213	155.2800	PS
ALLEN	COLLIN COUNTY COMMUNITY COLLEG	WNEU888	1965.0000	PL
AMARILLO	AMARILLO, CITY OF	WPHN913	153.4850	IW
AMARILLO	AMARILLO, CITY OF	WPHN913	158.1900	IW
AMARILLO	TEXAS, STATE OF	WPHN543	453.3000	PL

City	Licensee	Callsign	Freq	Sr.
AMARILLO	TEXAS, STATE OF	WPHN543	453.4500	PL
BAY CITY	MATAGORDA, COUNTY OF	WNMQ355	453.8250	PL
BAY CITY	MATAGORDA, COUNTY OF	WNMQ355	458.8250	PL
BRYAN	BRYAN, CITY OF	KMK604	153.9500	PF
BRYAN	BRYAN, CITY OF	KMK604	154.2500	PF
BRYAN	BRYAN, CITY OF	KMK604	154.2800	PF
BRYAN	BRYAN, CITY OF	KMK604	154.4150	PF
BRYAN	BRYAN, CITY OF	KNHR460	155.3400	PM
CAMP WOOD	CAMPWOOD, CITY OF	WRW711	45.9200	PS
CARRIZO SP	CARRIZO SPRINGS, CITY OF	WPAX382	173.2875	PL
CENTER	CENTER, CITY OF	KUZ821	154.8450	PP
CENTER	CENTER, CITY OF	KUZ821	154.8750	PP
CENTER	CENTER, CITY OF	KUZ821	154.9500	PP
CENTER	CENTER, CITY OF	KUZ821	155.3700	PP
CENTER	CENTER, CITY OF	KUZ821	155.4300	PP
CENTER	CENTER, CITY OF	KUZ821	155.4900	PP
CENTER	CENTER, CITY OF	KUZ821	155.5200	PP
COLDSPRING	SAN JACINTO, COUNTY OF	WPBZ783	154.8450	PP
COLDSPRING	SAN JACINTO, COUNTY OF	WPBZ783	155.3700	PP
COLDSPRING	SAN JACINTO, COUNTY OF	WPBZ783	155.5200	PP
COLDSPRING	SAN JACINTO, COUNTY OF	WPBZ783	155.5800	PP
CONROE	TEXAS, STATE OF	WNCW578	154.2800	PF
CROCKETT	CROCKETT, CITY OF	WPHR571	155.9850	PL
CROCKETT	CROCKETT, CITY OF	WPHR571	158.9250	PL
CROWLEY	CROWLEY, CITY OF	WPHK615	153.8600	PL
CROWLEY	CROWLEY, CITY OF	WPHK615	154.8900	PL
CUERO	DEWITT, COUNTY OF	WPGZ735	154.7250	PP
CUERO	DEWITT, COUNTY OF	WPGZ735	154.9500	PP
CUERO	DEWITT, COUNTY OF	WPGZ735	155.3700	PP
CUERO	DEWITT, COUNTY OF	WPGZ735	155.5200	PP
DUMAS	DUMAS, CITY OF	WPHM464	154.4637	PL
EL PASO	TEXAS, STATE OF	WPHH542	151.4600	PL
EL PASO	TEXAS, STATE OF	WPHH542	153.9050	PL
EL PASO	TEXAS, STATE OF	WPHH542	154.1150	PL
EL PASO	TEXAS, STATE OF	WPHH542	154.9950	PL
FLOYDADA	FLOYDADA, CITY OF	WNAV458	153.8900	PF
FLOYDADA	FLOYDADA, CITY OF	WNAV458	154.2350	PF
FLOYDADA	FLOYDADA, CITY OF	WNAV458	154.2800	PF
FRISCO	COLLIN COUNTY COMMUNITY COLLEG	WNTZ278	1885.0000	PL
HENDERSON	TEXAS, STATE OF	WNDB466	154.2800	PF
HILLSBORO	AQUILLA WATER SUPPLY DISTRICT	WNTZ302	928.2562	PL
HILLSBORO	AQUILLA WATER SUPPLY DISTRICT	WNTZ302	952.2562	PL
HURST	TEXAS, STATE OF	KNFZ484	151.0100	PP
HURST	TEXAS, STATE OF	KNFZ484	155.4450	PP
KERMIT	KERMIT, CITY OF	WNLK674	155.9400	PL
KERMIT	KERMIT, CITY OF	WNLK674	173.3375	PL
KILLEEN	METROPLEX HOSPITAL	WPHQ844	462.9500	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	462.9750	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.0000	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.0250	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.0500	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.0750	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.1000	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.1250	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.1500	PM
KILLEEN	METROPLEX HOSPITAL	WPHQ844	463.1750	PM
LAKE HILLS	MEDINA LAKE VOL FIRE DEPT INC	WPHJ754	153.7700	PF
LAKE HILLS	MEDINA LAKE VOL FIRE DEPT INC	WPHJ754	154.4300	PF
LAMESA	LAMESA, CITY OF	KKS926	153.9500	PF
LAMESA	LAMESA, CITY OF	KKS926	154.2500	PF
LEROY	LEROY VOLUNTEER FIRE DEPARTMEN	WPHM401	154.3100	PF
LEROY	LEROY VOLUNTEER FIRE DEPARTMEN	WPHM401	158.9850	PF
LIVINGSTON	TEXAS, STATE OF	WNYK596	47.0600	PH
LIVINGSTON	TEXAS, STATE OF	WNYK596	47.1000	PH
NEDERLAND	UNION OIL CO OF CALIFORNIA	KYF360	154.2800	PF
NEDERLAND	UNION OIL CO OF CALIFORNIA	KYF360	154.3400	PF
OVERTON	OVERTON, CITY OF	WPHM385	150.7900	PM
OVERTON	OVERTON, CITY OF	WPHM385	156.1050	PM
PLANO	COLLIN COUNTY COMMUNITY COLLEG	WNTZ277	1895.0000	PL
ROCKDALE	ROCKDALE, CITY OF	KNHA823	154.0250	PP
ROCKDALE	ROCKDALE, CITY OF	KNHA823	154.8150	PP
ROCKDALE	ROCKDALE, CITY OF	KNHA823	154.9500	PP
ROCKDALE	ROCKDALE, CITY OF	KNHA823	154.9650	PP
ROCKDALE	ROCKDALE, CITY OF	KNHA823	155.3700	PP
ROCKDALE	ROCKDALE, CITY OF	WPHP675	153.7700	PF
ROCKDALE	ROCKDALE, CITY OF	WPHP675	154.3700	PF
SAN ANTONI	HILL COUNTRY VILLAGE, CITY OF	WNDG924	159.4650	PP
SAN ANTONI	TEXAS, STATE OF	WPHN860	154.1150	PL
SIERRA BLA	TEXAS, STATE OF	WPHK607	155.9400	PL
SIERRA BLA	TEXAS, STATE OF	WPHK607	158.8050	PL
SMITHVILLE	SMITHVILLE, CITY OF	KNHH354	155.8800	PL
STEPHENVIL	STEPHENVILLE, CITY OF	WPHK619	153.9800	PL
STEPHENVIL	STEPHENVILLE, CITY OF	WPHK619	154.9800	PL
TEXAS CITY	TEXAS, STATE OF	WPHN552	153.9050	PL
TEXAS CITY	TEXAS, STATE OF	WPHN552	453.0500	PL
VAN	KAUBLE, REESE	KYI963	155.2350	PS
WACO	DURHAM TRANSPORTATION INC	WPHP511	155.2200	PS
WACO	MC LENNAN, COUNTY OF	WPHM640	453.9000	PL
WACO	MC LENNAN, COUNTY OF	WPHM640	458.9000	PL
WEATHERFOR	PARKER COUNTY HOSPITAL DISTRIC	WPHP264	150.7900	PM
WEATHERFOR	PARKER COUNTY HOSPITAL DISTRIC	WPHP264	155.3850	PM
WEST ORANG	WEST ORANGE, CITY OF	KWZ998	153.8600	PL
WOLFFORTH	WOLFFORTH, CITY OF	KNHV807	153.8000	PL
WOLFFORTH	WOLFFORTH, CITY OF	KNHV807	156.0150	PL

Utah

City	Licensee	Callsign	Freq	Sr.
	SANPETE, COUNTY OF	WPHN859	153.9650	PL
	WEBER, COUNTY OF	KTQ229	154.1600	PF
	WEBER, COUNTY OF	KTQ229	154.2800	PF
BEAVER	PROVO, CITY OF	WNHQ417	153.4100	IW
HILDALE	HILDALE, CITY OF	WPHQ868	451.0500	IW
HILDALE	HILDALE, CITY OF	WPHQ868	456.0500	IW

Virginia

City	Licensee	Callsign	Freq	Sr.
	BLAND, COUNTY OF	KYQ555	39.5400	PP
	COLONIAL HEIGHTS, CITY OF	WPHM776	155.2050	PM
	COLONIAL HEIGHTS, CITY OF	WPHM776	155.3400	PM
	CULPEPER, TOWN OF	WNPH343	460.4000	PP
	CUMBERLAND, COUNTY OF	KDV813	39.4000	PP
	CUMBERLAND, COUNTY OF	KDV813	39.5400	PP
	CUMBERLAND, COUNTY OF	KDV813	460.3875	PP
	PATRICK, COUNTY OF	WPHP512	155.3400	PM
	SALEM, CITY OF	KP2490	453.4750	PL
	SALEM, CITY OF	KP2490	458.3250	PL
	SALEM, CITY OF	KP2490	458.5500	PL
	SALEM, CITY OF	KP2490	458.6000	PL
	SALEM, CITY OF	KP2490	458.9500	PL
APPOMATTOX	VIRGINIA, COMMONWEALTH OF	KIB701	159.1650	PP
ARLINGTON	ARLINGTON, COUNTY OF	WPHM228	856.4875	GP
ARLINGTON	ARLINGTON, COUNTY OF	WPHM228	858.4875	GP
ARLINGTON	ARLINGTON, COUNTY OF	WPHM228	859.4875	GP
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	155.1750	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	155.3400	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	462.9500	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	462.9750	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.0000	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.0250	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.0500	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.1000	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.1250	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.1500	PS
BIG STONE	BIG STONE GAP RESCUE SQUAD INC	KNFF509	463.1750	PS
BIG STONE	BIG STONE GAP, TOWN OF	KIH889	39.5000	PP
BIG STONE	BIG STONE GAP, TOWN OF	KIH889	39.7200	PP
BIG STONE	BIG STONE GAP, TOWN OF	KIH889	155.6550	PP
BIG STONE	BIG STONE GAP, TOWN OF	KIH889	156.0900	PP
CLARKSVILL	CLARKSVILLE, TOWN OF	KYO278	39.5400	PP
CLARKSVILL	CLARKSVILLE, TOWN OF	KYO278	39.8000	PP
CLINTON	VIRGINIA, COMMONWEALTH OF	WPEN666	453.4250	PL
CLINTON	VIRGINIA, COMMONWEALTH OF	WPEN666	453.6500	PL
FANCY GAP	VIRGINIA, COMMONWEALTH OF	WPHC269	158.9850	PP
LAWRENCEVI	BRUNSWICK, COUNTY OF	WNSH515	460.1250	PP
MARSHALL	WALDRON, ROBIN:WALDRON, JEANNI	WNCU601	47.6200	PS
SOUTH HILL	VIRGINIA, COMMONWEALTH OF	KIB701	159.1650	PP
SPROUSES	VIRGINIA, COMMONWEALTH OF	KIB701	159.1350	PP
STANLEY	STANLEY, TOWN OF	WPHH530	453.8750	PL
STUART	PATRICK, COUNTY OF	WPHP512	155.3400	PM
STUART	PATRICK, COUNTY OF	WPHP512	453.9000	PM
STUART	PATRICK, COUNTY OF	WPHP512	458.9000	PM

City	Licensee	Callsign	Freq	Sr.
	Vermont			
	SHAFTSBURY, TOWN OF	KBT926	154.0700	PF
SAINT JOHN	CALEX AMBULANCE	WPHR207	155.2050	PS
SHAFTSBURY	SHAFTSBURY, TOWN OF	KBT926	154.0700	PF
SHAFTSBURY	SHAFTSBURY, TOWN OF	KBT926	154.3100	PF
	Washington			
	HIGHLINE PUBLIC SCHOOLS 401 WA	WPHK822	852.5875	GP
	ISLAND COUNTY FIRE PROTECTION	KOL645	154.1750	PF
	ISLAND COUNTY FIRE PROTECTION	KOL645	154.4300	PF
	KING COUNTY FIRE PROTECTION DI	WPHK611	154.0850	PL
	KITSAP, COUNTY OF	KNFV856	155.7450	PL
	LEWIS, COUNTY OF	WPHN548	159.3150	PF
	LINCOLN COUNTY EMERGENCY COMM	WNSL446	153.9500	PF
	LINCOLN COUNTY EMERGENCY COMM	WNSL446	154.1900	PF
	LINCOLN COUNTY EMERGENCY COMM	WNSL446	154.2050	PF
	SAINT MARY MEDICAL CENTER	KSV878	155.3400	PS
	SAN JUAN ISLAND EMERGENCY MEDI	KDW376	155.2800	PS
	SEATTLE CITY OF	KA2079	37.4800	IW
	SEATTLE CITY OF	KA2079	37.5800	IW
	SEATTLE, CITY OF	WPHR715	456.4250	IW
	TULALIP UTILITIES AUTHORITY	WPHQ841	453.2125	PL
	WASHINGTON, STATE OF	WPHP743	453.1625	PL
	WASHINGTON, STATE OF	WPHP743	453.6875	PL
	WHATCOM, COUNTY OF	WPHC829	453.0375	PP
	WHATCOM, COUNTY OF	WPHC829	453.0875	PP
	WHATCOM, COUNTY OF	WPHC829	453.2125	PP
	WHATCOM, COUNTY OF	WPHC829	453.9625	PP
	WILLAPA VALLEY WATER DISTRICT	WPHJ770	453.6625	PL
ANACORTES	AMERICAN NATIONAL RED CROSS	WPHR687	47.4200	PS
ANATONE	WASHINGTON, STATE OF	WPHK738	851.3875	YP
ANATONE	WASHINGTON, STATE OF	WPHK738	852.1375	YP
ANATONE	WASHINGTON, STATE OF	WPHK738	853.6375	YP
ANATONE	WASHINGTON, STATE OF	WPHK738	854.6375	YP
CONCRETE	CONCRETE SCHOOL DISTRICT	WNCU484	155.2050	PS
CONNELL	WASHINGTON, STATE OF	WPHN664	856.2125	YP
CONNELL	WASHINGTON, STATE OF	WPHN664	857.2125	YP
CONNELL	WASHINGTON, STATE OF	WPHN664	858.2125	YP
ELECTRIC C	WASHINGTON, STATE OF	WPHN265	859.2125	YP
ELECTRIC C	WASHINGTON, STATE OF	WPHN265	860.2125	YP
FORKS	FORKS, CITY OF	WPGR773	453.3000	PP
FORKS	FORKS, CITY OF	WPGR773	458.3000	PP
FRIDAY HAR	SAN JUAN ISLAND EMERGENCY MEDI	KDW376	155.2800	PS
GIG HARBOR	WASHINGTON, STATE OF	WPHR517	866.5625	GF
GIG HARBOR	WASHINGTON, STATE OF	WPHR517	867.0625	GF
GIG HARBOR	WASHINGTON, STATE OF	WPHR517	868.1375	GF
GOLDENDALE	WASHINGTON, STATE OF	WPHK730	851.3875	YP
GOLDENDALE	WASHINGTON, STATE OF	WPHK730	852.6625	YP
GOLDENDALE	WASHINGTON, STATE OF	WPHK730	853.6375	YP
GOLDENDALE	WASHINGTON, STATE OF	WPHK730	854.1625	YP
KETTLE FAL	WASHINGTON, STATE OF	WPHK734	851.7875	YP
KETTLE FAL	WASHINGTON, STATE OF	WPHK734	852.8875	YP
LEWIS	WASHINGTON, STATE OF	WPHK826	867.2500	YF
LEWIS	WASHINGTON, STATE OF	WPHK826	868.1125	YF
LEWIS	WASHINGTON, STATE OF	WPHK826	868.9875	YF
LYNDEN	WASHINGTON, STATE OF	WNRR569	151.2350	PO
LYNDEN	WASHINGTON, STATE OF	WNRR569	151.2950	PO
MINERAL	LEWIS, COUNTY OF	WPHN548	154.1900	PF
NEWHALEM	WASHINGTON, STATE OF	WPHR521	866.1125	GF
NORTH BEND	KING COUNTY FIRE PROTECTION DI	WPHK611	154.0850	PL
OLYMPIA	WASHINGTON, STATE OF	WNTY994	928.5187	PL
OLYMPIA	WASHINGTON, STATE OF	WNTY994	952.5187	PL
PORT ANGEL	CLALLAM, COUNTY OF	KPN31	155.9250	PL
PORT ANGEL	CLALLAM, COUNTY OF	KPN31	158.8350	PL
QUILCENE	WASHINGTON, STATE OF	WPHN432	851.7875	YP
QUILCENE	WASHINGTON, STATE OF	WPHN432	852.0875	YP
RIVERSIDE	WASHINGTON, STATE OF	WPHR525	867.2500	YF
RIVERSIDE	WASHINGTON, STATE OF	WPHR525	868.1125	YF
RIVERSIDE	WASHINGTON, STATE OF	WPHR525	868.9875	YF
SEATTLE	WASHINGTON, STATE OF	WPHN433	851.3875	YP
SEATTLE	WASHINGTON, STATE OF	WPHN433	852.1375	YP
SEATTLE	WASHINGTON, STATE OF	WPHN433	852.8875	YP
SEATTLE	WASHINGTON, STATE OF	WPHN433	853.6375	YP
SEATTLE	WASHINGTON, STATE OF	WPHN433	854.3875	YP
SEKIU	CLALLAM, COUNTY OF	KPN31	155.9250	PL
SEKIU	CLALLAM, COUNTY OF	KPN31	158.8350	PL
SELAH	YAKIMA COUNTY FIRE PROTECTION	KDC268	153.7700	PF
SELAH	YAKIMA COUNTY FIRE PROTECTION	KDC268	154.1900	PF
SELAH	YAKIMA COUNTY FIRE PROTECTION	KDC268	154.2800	PF
SHELTON	WASHINGTON, STATE OF	WPHN684	866.0125	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	866.5125	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.0125	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.5125	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.5375	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.5625	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.5875	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.6125	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	867.6375	GF
SHELTON	WASHINGTON, STATE OF	WPHN684	868.0125	GF
SPOKANE	WASHINGTON EXPLORER SEARCH AND	KNJM952	47.5000	PS
SPOKANE	WASHINGTON EXPLORER SEARCH AND	KNJM952	47.5800	PS
SUNNYSIDE	SUNNYSIDE, CITY OF	KNEQ242	154.1450	PF
WAITSBURG	WASHINGTON, STATE OF	WPHN266	852.0875	YP
WAITSBURG	WASHINGTON, STATE OF	WPHN266	852.8375	YP
WAITSBURG	WASHINGTON, STATE OF	WPHN266	852.8875	YP
WAITSBURG	WASHINGTON, STATE OF	WPHN266	854.3375	YP
WEST RICHL	BENTON COUNTY MOSQUITO CONTROL	KXB526	158.7600	PL
WILBUR	LINCOLN COUNTY EMERGENCY COMM	WNSL446	154.1900	PF
WILBUR	LINCOLN COUNTY EMERGENCY COMM	WNSL446	154.2050	PF
	Wisconsin			
	DANE, COUNTY OF	KAZ666	153.7400	PP
	DANE, COUNTY OF	KAZ666	154.7700	PP
	DANE, COUNTY OF	KAZ666	154.8450	PP
	DANE, COUNTY OF	KAZ666	155.4750	PP
	DANE, COUNTY OF	KAZ666	155.5650	PP
	DELAVAN, CITY OF	KSJ502	155.3700	PP
	DELAVAN, CITY OF	KSJ502	453.5500	PP
	DEWEY, TOWNSHIP OF	WRB491	155.0250	PL
	DOUGLAS, COUNTY OF	KVH232	154.8300	PP
	DOUGLAS, COUNTY OF	KVH232	155.2500	PP
	DOUGLAS, COUNTY OF	KVH232	155.3700	PP
	DOUGLAS, COUNTY OF	KVH232	155.6850	PP
	DOUGLAS, COUNTY OF	KVH232	158.7300	PP
	DOUGLAS, COUNTY OF	KVH232	158.8650	PP
	DOUGLAS, COUNTY OF	KVH232	159.1500	PP
	JACKSONPORT, TOWN OF	WNSL544	153.7400	PF
	JACKSONPORT, TOWN OF	WNSL544	154.1750	PF
	JACKSONPORT, TOWN OF	WNSL544	154.2950	PF
	JACKSONPORT, TOWN OF	WNSL544	154.3400	PF
	MC FARLAND GRADE SCHOOL	WNSH495	155.2050	PS
	NORTH SHORE RADIO COMMISSION	WNSL463	156.0000	PF
	OREGON, VILLAGE OF	WPHP309	451.2875	IW
	RUSK, COUNTY OF	KNAO343	154.2050	PF
	RUSK, COUNTY OF	KNAO343	158.8950	PF
	SAINT CROIX, COUNTY OF	WPHJ855	153.8300	PF
	SAINT CROIX, COUNTY OF	WPHJ855	154.2950	PF
	SAINT CROIX, COUNTY OF	WPHJ855	154.3250	PF
	SAINT CROIX, COUNTY OF	WPHJ855	154.4000	PF
	YORKVILLE, TOWN OF	WPHK640	453.3875	PL
BALDWIN	SAINT CROIX, COUNTY OF	KSI436	154.3250	PF
BARABOO	WISCONSIN, STATE OF	KGT483	158.8050	PL
BARABOO	WISCONSIN, STATE OF	KGT483	158.8350	PL
BLUE MOUND	DANE, COUNTY OF	KAZ666	155.6550	PP
BROOKFIELD	BROOKFIELD, TOWN OF	KWY241	453.1500	PL
BROWNSVILL	BROWNSVILLE, VILLAGE OF	WPHM771	154.2800	PF
BROWNSVILL	BROWNSVILLE, VILLAGE OF	WPHM771	154.2950	PF
BROWNSVILL	BROWNSVILLE, VILLAGE OF	WPHM771	154.3250	PF
BROWNSVILL	BROWNSVILLE, VILLAGE OF	WPHM771	154.3550	PF
BROWNSVILL	BROWNSVILLE, VILLAGE OF	WPHM771	154.4450	PF
BYRON	WISCONSIN, STATE OF	WPHQ858	154.4712	PL
CHAFFEY	DOUGLAS, COUNTY OF	KVH232	155.2500	PP
CHAFFEY	DOUGLAS, COUNTY OF	KVH232	458.1000	PP
CHILTON	WISCONSIN, STATE OF	KGT483	158.7450	PL
CHILTON	WISCONSIN, STATE OF	KGT483	158.8050	PL
CHILTON	WISCONSIN, STATE OF	WPHQ858	154.4712	PL
COLUMBUS	COLUMBUS, CITY OF	WPHQ248	155.7450	PL
DEERFIELD	WISCONSIN, STATE OF	WPEZ759	154.4712	PL
DELAFIELD	WISCONSIN, STATE OF	KGT483	158.7600	PL
DELAFIELD	WISCONSIN, STATE OF	KGT483	158.8050	PL
DELAVAN	DELAVAN, CITY OF	KSJ502	453.5500	PP
EDGERTON	WISCONSIN, STATE OF	WPEZ759	154.4712	PL
FOND DU LA	FOND DU LAC, CITY OF	KSD919	155.7300	PP
FOND DU LA	WISCONSIN, STATE OF	WPHQ858	154.4712	PL
FREDERIC	FREDERIC SCHOOLS	WNSH499	155.1600	PS

City	Licensee	Callsign	Freq	Sr.
GLENWOOD C	SAINT CROIX, COUNTY OF	KSI436	154.3250	PF
GORDON	DOUGLAS, COUNTY OF	KVH232	155.4900	PP
GREEN BAY	WISCONSIN, STATE OF	WPHQ857	154.4712	PL
GREENWOOD	GREENWOOD, CITY OF	WNZM248	173.2375	PL
HAMMOND	SAINT CROIX, COUNTY OF	KSI436	154.2950	PF
HAMMOND	SAINT CROIX, COUNTY OF	KSI436	154.3250	PF
HARRISON	WISCONSIN, STATE OF	KGT483	158.8050	PL
HARRISON	WISCONSIN, STATE OF	KGT483	158.8350	PL
HARRISON	WISCONSIN, STATE OF	WPHQ857	154.4712	PL
HAWKINS	RUSK, COUNTY OF	KNAO343	154.2050	PF
HUDSON	SAINT CROIX, COUNTY OF	KSI436	154.3250	PF
HUDSON	SAINT CROIX, COUNTY OF	WPHJ855	154.3250	PF
JACKSONPOR	JACKSONPORT, TOWN OF	WNSL544	153.7400	PF
JACKSONPOR	JACKSONPORT, TOWN OF	WNSL544	154.1750	PF
JACKSONPOR	JACKSONPORT, TOWN OF	WNSL544	154.3400	PF
KENOSHA	WISCONSIN, STATE OF	WPEZ759	154.4712	PL
KEWASKUM	KEWASKUM, VILLAGE OF	WQJ956	46.2000	PF
LADYSMITH	RUSK, COUNTY OF	KNAO343	154.2050	PF
LAKEWOOD	WISCONSIN, STATE OF	WPHQ857	154.4712	PL
MADISON	DANE, COUNTY OF	KAZ666	155.5650	PP
MADISON	DANE, COUNTY OF	KAZ666	155.6550	PP
MADISON	DANE, COUNTY OF	KAZ666	155.7900	PP
MADISON	MADISON METRO SEWERAGE DISTRIC	KXV892	154.9650	PL
MAPLE	DOUGLAS, COUNTY OF	KVH232	158.7300	PP
MAUSTON	WILEY, H A	KKU344	47.6200	PS
MENASHA	WISCONSIN, STATE OF	WPHQ858	154.4712	PL
NEW FANE	WISCONSIN, STATE OF	WPHQ858	154.4712	PL
NEW RICHMO	SAINT CROIX, COUNTY OF	KSI436	154.3250	PF
OCONTO	OCONTO, CITY OF	WNSL354	154.0550	PL
OSHKOSH	MERCY MEDICAL CENTER OF OSHKOS	WQS210	463.0000	PS
OSHKOSH	MERCY MEDICAL CENTER OF OSHKOS	WQS210	463.0500	PS
OSHKOSH	MERCY MEDICAL CENTER OF OSHKOS	WQS210	463.1000	PS
OSHKOSH	MERCY MEDICAL CENTER OF OSHKOS	WQS210	463.1250	PS
OSHKOSH	MERCY MEDICAL CENTER OF OSHKOS	WQS210	463.1500	PS
OSSEO	WISCONSIN, STATE OF	KGT483	158.7600	PL
OSSEO	WISCONSIN, STATE OF	KGT483	158.8050	PL
PATZAU	DOUGLAS, COUNTY OF	KVH232	155.3700	PP
PATZAU	DOUGLAS, COUNTY OF	KVH232	155.4750	PP
PATZAU	DOUGLAS, COUNTY OF	KVH232	159.2100	PP
RIDGEVILLE	WISCONSIN, STATE OF	KGT483	158.7450	PL
RIDGEVILLE	WISCONSIN, STATE OF	KGT483	158.8050	PL
RIVER FALL	RIVER FALLS, CITY OF	WPHM373	156.1800	PH
RIVER FALL	SAINT CROIX, COUNTY OF	KSI436	154.3250	PF
ROXBURY TO	DANE, COUNTY OF	KAZ666	154.8450	PP
SHEBOYGAN	SHEBOYGAN MEMORIAL HOSPITAL	WRI207	155.2200	PS
SHEBOYGAN	WISCONSIN, STATE OF	WPHQ858	154.4712	PL
SHIRLEY	WISCONSIN, STATE OF	WPHQ857	154.4712	PL
STEVENS PO	DEWEY, TOWNSHIP OF	WRB491	155.0250	PL
STOUGHTON	STOUGHTON, CITY OF	KUD473	153.4100	IW
STURTEVANT	WISCONSIN, STATE OF	WPEZ759	154.4712	PL
SUPERIOR	DOUGLAS, COUNTY OF	KVH232	154.8300	PP
SUPERIOR	DOUGLAS, COUNTY OF	KVH232	453.1000	PP
TOMAH	TOMAH, CITY OF	KSC641	155.0700	PP
TOMAH	TOMAH, CITY OF	KSC641	155.3700	PP
TOMAH	TOMAH, CITY OF	KSC641	155.4750	PP
TOMAH	TOMAH, CITY OF	KSC641	158.9100	PP
TOMAH	TOMAH, CITY OF	KSC641	158.9400	PP
TOMAHAWK	WISCONSIN, STATE OF	WPHQ857	154.4712	PL
TOWNSEND	WISCONSIN, STATE OF	WPHQ857	154.4712	PL
UNION GROV	WISCONSIN, STATE OF	WPEZ759	154.4712	PL
VERONA	DANE, COUNTY OF	KAZ666	154.8450	PP
VERONA	DANE, COUNTY OF	KAZ666	155.5650	PP
VERONA	DANE, COUNTY OF	KAZ666	155.6550	PP
WARRENS	TOWN OF LINCOLN VOL FIRE DEPT	KNFX486	153.7400	PF
WARRENS	TOWN OF LINCOLN VOL FIRE DEPT	KNFX486	154.2350	PF
WARRENS	TOWN OF LINCOLN VOL FIRE DEPT	KNFX486	154.2950	PF
WHITEFISH	NORTH SHORE RADIO COMMISSION	WNSL463	154.3400	PF
WHITEFISH	NORTH SHORE RADIO COMMISSION	WNSL463	156.0000	PF

West Virginia

	JEFFERSON, COUNTY OF	WPHJ755	154.8750	PP
	JEFFERSON, COUNTY OF	WPHJ755	158.9700	PP
BURLINGTON	MINERAL, COUNTY OF	WPHN865	153.7850	PL
BURLINGTON	MINERAL, COUNTY OF	WPHN865	155.8800	PL
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	155.2200	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	155.3400	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.0000	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.0250	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.0500	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.0750	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.1000	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.1250	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.1500	PM
CLARKSBURG	AMBULANCE ENTERPRISES OF WEST	WPHK423	463.1750	PM
ELIZABETH	WEST VIRGINIA, STATE OF	WPHI694	47.2800	PH
ELIZABETH	WEST VIRGINIA, STATE OF	WPHI694	47.3600	PH
ELIZABETH	WEST VIRGINIA, STATE OF	WPHI694	453.7500	PH
ELIZABETH	WEST VIRGINIA, STATE OF	WPHI694	458.7500	PH
ELK GARDEN	MINERAL, COUNTY OF	WPHN866	153.7850	PL
ELK GARDEN	MINERAL, COUNTY OF	WPHN866	155.8800	PL
FORT ASHBY	MINERAL, COUNTY OF	WPHN865	153.7850	PL
FORT ASHBY	MINERAL, COUNTY OF	WPHN865	155.8800	PL
FOUNTAIN	MINERAL, COUNTY OF	WPHN865	153.7850	PL
FOUNTAIN	MINERAL, COUNTY OF	WPHN865	155.8800	PL
KEARNEYSVI	JEFFERSON, COUNTY OF	WPHJ755	154.8750	PP
KEYSER	MINERAL, COUNTY OF	WPHN866	153.7850	PL
KEYSER	MINERAL, COUNTY OF	WPHN866	155.8800	PL
LESAGE	CABELL, COUNTY OF	WPHK487	460.1250	PL
LESAGE	CABELL, COUNTY OF	WPHK487	460.2250	PL
LESAGE	CABELL, COUNTY OF	WPHK487	465.2250	PL
MABSCOTT	MABSCOTT, TOWN OF	WPHK498	154.2500	PF
MARSHALL T	JEFFERSON, COUNTY OF	WPHM479	866.1625	YF
MARSHALL T	JEFFERSON, COUNTY OF	WPHM479	866.4125	YF
MARSHALL T	JEFFERSON, COUNTY OF	WPHM479	868.2375	YF
MARSHALL T	JEFFERSON, COUNTY OF	WPHM479	868.6625	YF
MARSHALL T	JEFFERSON, COUNTY OF	WPHR563	452.5500	PL
NEW CREEK	MINERAL, COUNTY OF	WPHN866	153.7850	PL
NEW CREEK	MINERAL, COUNTY OF	WPHN866	155.8800	PL
PATTERSON	MINERAL, COUNTY OF	WPHN865	153.7850	PL
PATTERSON	MINERAL, COUNTY OF	WPHN865	155.8800	PL
PIEDMONT	MINERAL, COUNTY OF	WPHN866	153.7850	PL
PIEDMONT	MINERAL, COUNTY OF	WPHN866	155.8800	PL
RIDGELEY	MINERAL, COUNTY OF	WPHN865	153.7850	PL
RIDGELEY	MINERAL, COUNTY OF	WPHN865	155.8800	PL
SHORT GAP	MINERAL, COUNTY OF	WPHN866	153.7850	PL
SHORT GAP	MINERAL, COUNTY OF	WPHN866	155.8800	PL
SPENCER	ROANE, COUNTY OF	WNQK851	453.8500	PL
WILEY FORD	MINERAL, COUNTY OF	WPHN865	153.7850	PL
WILEY FORD	MINERAL, COUNTY OF	WPHN865	155.8800	PL

Wyoming

	NATRONA COUNTY EMERGENCY MANAG	KNAW434	155.1600	PS
	NATRONA COUNTY EMERGENCY MANAG	KNAW434	155.2350	PS
ATLANTIC C	FREMONT, COUNTY OF	WRG582	155.0550	PL
CASPER	NATRONA COUNTY EMERGENCY MANAG	KNAW434	155.1600	PS
POWELL	PARK, COUNTY OF	KOM958	153.5300	IW

FLASH

New Radio Shack™ Scanner

Radio Shack is replacing the PRO-2035 after about a year of production. The replacement goes by the name PRO-2042. The PRO-2042 is the same as the PRO-2035 except they have fixed two major boobs. First, the search-and-store will not store the same frequency more the once. Secondly, while in search you can now lock-out a frequency that you don't wish the scanner to stop on, like a birdy.

It is nice to see that they do read our gripes when we do a review. The only thing they didn't fix was the price, it's still a bit high at $499.99 (Oh heck, give them the penny and make it $500.) Call or write, Pioneer Data, 1515 N. Pacific Highway, Woodburn, OR 97071, (503) 982-5115 for availability and pricing.

GTE TELE-GO

What It Is & How It Works

Over the last few years, a new service, Tele-Go, has been introduced in areas of the country served by GTE Mobilnet cellular. Marketing of the service has been extensive. There was some television advertising, but the emphasis has been on newspaper ads and, believe it or not, door-to-door soliciting! Salespeople actually canvassed neighborhoods, leaving doorhangers touting the service and asking you to call your area representative or return the attached postcard. The postcard allowed you to either have a representative contact you or to receive a FREE demonstation video. What is this service and why all the hoopla?

Some of the ads go into a little more detail, explaining that Tele-Go is a portable telephone that serves as a cordless telephone unit while you are at home. It is also a portable phone that can be used for a "small, per-minute charge" while you are away from home. GTE provides the base and portable units.

Their advertisements tell you to "think of all the times you have.. wished you had a phone at your side for security; needed to reach someone when you were away from home; needed directions or looked for a pay phone". Nowhere is the word "cellular" even mentioned. Their fliers talked about being able to have a phone "just like the one in your house, only you can take it throughout the metropolitan area and make or receive calls."

What is Tele-Go?

GTE's free video tape answers this question very simply. It's "a portable phone that connects you to the telephone company, but without any wires!" It "uses a specially modified wireless telephone to take advantage of the existing telephone system and wireless phone system already available in your community." Wow, this sounds pretty sophisticated, huh?

This is where they actually get kind of misleading. All during this portion of the narration, the video flashes clips of newspaper articles concerning testing of PCS (Personal Communications Service) in various cities. Only one article shown mentions the "New cellular phone service to be tested in Tampa Bay." The others mention PCS, "futuristic" telephone service, etc., etc.

Members of the USSN staff called various "representatives" to try and get the straight story. In one conversation I had, I finally just asked the woman "Is this really just a cellular telephone and, if so, why don't you advertise it as such?" Her response was vague, something about the fact that most people associate cellular phones with "people who talk on their phones while trying to drive!" She later admitted that it was just another marketing strategy, another approach to selling the same service.

You can't really call their advertising deceptive, but why go to all the bother to conceal the true nature of the service? The free video they offered was the most provoking. They state that Tele-Go is a "new service" and that it "brings together the best of regular telephones, cordless phones and wireless mobility when you're away from home." Providing a little history, they state that "in just the last ten years, we've had....the first mobile telephone service." (Huh?) "Mobile telephones were first popular with busy executives, then were quickly accepted by people in sales, construction and other trades. Today they are attracting more people for personal use." Throughout the videotape, men and women are shown using what are obviously car and handheld cellular telephones.

So what is it really?

Tele-Go really is just cellular service, with a handy base station unit thrown in. All of the equipment is provided by GTE. When you are within range of the base unit, calls are placed on your home telephone line, just like any cordless telephone unit. Outside the range of the base unit, calls go through the GTE cellular system serving those particular areas in which they offer service. If you initiate a call through the home unit and then travel outside its range, the handset "beeps" and the call is transfered automatically to the cellular system. (But not back again!)

When you get right down to it (past all the hype), the service is really kind of neat. You get a cellular phone for free and, in effect, a cordless telephone to use at home, all in one package. The cellular handset is an Oki cellular phone that will fit in your

shirt pocket. The "base" unit is a small, flat package, about five by eight and an inch tall. A four-inch antenna extends from one side. They call the base unit an "Enhanced Cordless Base" station, or ECB. The interesting thing about the videotape they offer? The base unit is not pictured at any time.

"Well, this is pretty neat," we thought. Undoubtedly, it's a cellular telephone with a built-in, low-power cordless phone, probably operating in the nearby 902 to 928 MHz low-power Part 15 band. Imagine our surprise when our investigation turned up the fact that the base unit operates on regular cellular telephone frequencies!

How are they getting away with this? Well, it seems that the Enhanced Cordless Base stations aren't just out there, scattered around the city, operating without any control. No, they thought things out better than that. There are a number of built-in safeguards in the operation of the system.

The first is the fact that the Tele-Go unit has to be initialized periodically. It will still operate as a cellular telephone (how convenient!) but will not be able to access the Base Station. There are a number of things you can do to disable the Base Station yourself. One is to not pay your bill! Another is to unplug the telephone line. They warn you that you can't move the base to another location, and that it has to be programmed for the residence in which it was installed. The same goes if you remove the AC power to the base unit. In either case, the Enhanced Base Station operation will be disabled until the unit is re-enabled.

The service is reinitialized periodically throughout the day, on the regular system control channels. This occurs at approximately the same time, or times, each day.

So what frequencies do the Enhanced Base Stations operate on? A quick investigation will show you that they operate on the HIGHEST frequency in each of the 21 cellular channel groups. These would be the frequencies from 893.37 through 893.97, in .030 MHz steps. The Enhanced Cordless Base unit also transmits its own control signal, which sounds exactly like those transmitted by the cellular system in the 879.39 to 880.62 MHz range. The unit will always use frequencies from a channel group that is not in use in the area. These, of course, will vary depending on your location. In some areas, the unit will use the same frequency repeatedly. In others, it may rotate among two or three channels.

So is this legal? Well, we went straight to FCC Part 22, which contains the rules dealing with the Public Mobile services. And right there in Part 22.933 it says that equipment used in the Cellular service must meet the compatibility standards established in 1981. This is to ensure that all systems are compatible, and that a subcriber in Sacramento can use his cellular phone in Buffalo. The "regular" cellular telephone portion of the Tele-Go complies with that. Part 22.901(d), though, allows the use of alternative technologies (such as digital) and services similar to those offered in the new Personal Communications Service. These services are specifically exempt from the compatibility standards of Part 22.933.

But the rules also say, in Part 22.923, that "mobile stations communicate with and through base transmitters only. Base transmitters communicate with mobile stations...". What this means is that all communications with mobile units must go through a cell site.

"Oh, alternative, PCS-type services are exempt from that rule, too," we were told by an FCC official in Washington. Well, then it darn well better say so, hadn't it? (And Part 22 was just revised last year! Isn't the bureaucracy wonderful?)

So when you consider the controls that they had the foresight to build in, the systems appears perfectly legal. In fact, this is exactly the type of service that the FCC tried to encourage when they amended their rules a few years ago to allow "alternative services" in the mobile radiotelephone services.

GTE is offering Tele-Go in all of the cellular markets they serve: Honolulu, Houston, the Bay area, and others. It was first test-marketed in Tampa. The monthly charges are slightly less than those charged for "regular" cellular service, but you usually receive no (or very little) free airtime per month. You can use the portable unit like any other cellular telephone, including using it in other service areas for a small "roaming" fee.

The tie-in to PCS in GTE's ads? GTE intends to get into the PCS market in a big way. They won licenses (in partnership with other providers) in a number of markets in the recent PCS auctions. They have indicated that what will likely happen is that Tele-Go users will eventually be "migrated" to their PCS systems when they are placed into service. In the meantime, they get themselves a "leg up" in the market. They stated that there will be no charge for the new equipment. They will simply give you a new phone.

All in all, it's a pretty slick deal, especially if you want to get a cellphone anyway. The range of the Enhanced Base Station is terrific! We tested it and found it to extend as far as a quarter-mile, while driving! Put the base unit in your attic and you can have coverage over the entire neighborhood. And your neighbors will think you're rich, talking for hours on your "cellular" telephone! And the service is a monitoring enthusiasts dream. If one were allowed to monitor these frequencies, of course.

USSN

Is it legal to monitor these units? Well, there are a number of overlapping statutes that seem to outlaw any such contemptible act. The newest is the 1994 provision regarding "cordless telephone handsets," which does not specify what frequency they have to be operating on. Section 2510 of Title 18, U.S. Code talks about communications carried on a common carrier system. So if you consider the Tele-Go unit and its associated base station to be a system, then it's covered. So it would appear that eavesdropping would indeed be verboten.

An exception might be listening to your OWN Tele-Go unit. If you are authorized to use the frequency, there is nothing in the rules that dictate what you use to receive the signal with. (Only what you transmit with.) So you could theoretically listen to your own conversation on a scanner!

PRODUCT REVIEWS

The Ultimate Scanner by Bill Cheek

The Ultimate Scanner book should be best thought of as an anthology of Bill Cheek's work as found in his World Scanner Report newsletter and Monitoring Times column from over the past several years. Some of The Ultimate Scanner may even be thought of as a pre-anthology, particularly when you compare his August MT column with pages 219 and 220 of the book. As the actual modification information goes, there is unfortunately, very little in the way of original material in here.

Most of the actual modification projects in the Ultimate Scanner focuses toward the PRO-2004/5/6 and PRO-43. The only scanners that Cheek believes to warrant serious hacking attention. . .

One of the more useful mods in the book may be the Data Squelch circuit, for bypassing continuous data stream transmissions, as typically found on various 800 MHz frequencies. However it is only usable with the PRO-2004/5/6, and 2035 scanners.

One of more "generic" sections of the book covers memory expansion techniques for adding up to 16, 000 channels(or more) in a number of different scanners.

Another potentially interesting section, for anyone interested in computer control of a PRO-2004/5/6, is a detailed description of Cheek's CE-232 computer control interface for use with a PC. Bill describes early on in the book about the close relationship that (should) exist between radios, computers and hobbyists. This is sure to be an area of increasing importance in coming years.

For those new to scanner "hacking", there is a section on general modification techniques, a listing of the most important tools, and instructions on building some simple test gear. In the back, there is a glossary and a listing of various companies as resources for supplying parts, publications and other scanners accessories.

Another chapter cover building and use of a simple SCA decoder. Although usable with any scanner which covers the FM Broadcast band, installation in scanners besides the 2004/5/6/35 is unfortunately brushed aside.

Of course there is the expected Cellular frequency programming restoration section, which covers Cellular restore modifications for about 2 dozen different models of scanners from both Radio Shack and Uniden. Only 4 of the cell mod descriptions are supported with illustrations however. The bigger limitation here of course is that none of these particular models of scanners are still available as "new product". There is also a brief description of how Cellular phone channels are set up.

While I totally understand Bill's affection for the PRO-2004/5/6/43 scanners, (I own a couple of them myself) I would have likely found the

book to be a lot more useful(marketable), if he had held off a few more months and included some modification data on the newer PRO-2035 and PRO-60. Even if it were merely to translate some of his older mods, for use in these newer(current) model scanners.

Bill certainly has some VERY distinct views about what an Ultimate Scanner should be. And I don't necessarily disagree with him here, I think really "basic" stuff like S meters should have been added to most scanners 10 years ago. But in looking over his laundry list(page 24) for the technical and operating features of what the Ultimate Scanner should have, 4 out of 5 of the modification hacks he lists are for projects described in his earlier books. And for the design and user features he lists, while he is intending to list the features found in the PRO-2004/5/6/35, he may be more closely describing a BC-9000. Which offhand, does include CTCSS decoding and a channel selectable RF attenuator as included in HIS own requirements.

Other requirements that he sets for the Ultimate Scanner are those of Consumer acceptance(popularity) for a given model and Manufacturer(technical) support. The popularity issue I won't get into here. But as Tech support goes, I haven't seen anything from Radio Shack to make me feel they're any better than say, Icom, AOR or Uniden. With Icom or AOR I can talk with a real live Radio Tech if I need to. Try that with one Radio Shack. Service manuals for Radio Shack scanners are good, but I have also seen the photo-copied ones they send too. Uniden manuals area at least as good as Radio Shack manuals. AOR manuals could be better, but they're quite usable. Bill Cheek is however right on the money, about having a service manual for whatever scanner you have, at the very top of your modification planning list.

Any kind of highly technical book like the Ultimate Scanner is going to have at least a few minor mistakes here and there. Ones like the Lock LED in the SCA adaptor section that should be turned around and go to V+ and not Ground. But one of the more glaring is one on page 69, that describes the Reference Oscillator signal in a PRO-2004/5/6, as getting "multiplied up to around 600 MHz. . . " No Bill, the Reference Oscillator signal gets divided DOWN, as also does the 300 - 1200 MHz VCO signal, within IC-302. I mention this in part because of a similar synthesizer design gaff he recently wrote in his World Scanner Report newsletter, where in he did not know the function of a +30 volt power supply in a 2004/5/6 scanner. This +30 volt supply is in fact the operating bias voltage source for the VCO varactors in the 2004/5/6/35's synthesizer. Is this a simple miswording or something unique to Radio Shack scanner's?NO, these design techniques are something VERY generic, similarly found in all synthesized scanners made over the past 20 years. I would have thought Bill would have at least known the one about the Reference Osc operation from his CB hacking days. Moral?Can you trust a Doctor that does not know even the most basic things about how your heart operates?. . . .

In chapter 9, Bill attempts to wow readers with a description of an extensive spread sheet computer program that provides equations for latitude/longitude/distance problems, VHF radio signal propagation(see August MT), and RF power Db calculations. While I liked the explanations of Db values, despite a lack of mention Dbm values, I think he would have been better off with a brief overview of Dbs(and Dbms) and a discussion of VHF/UHF propagation. With the page space saved, he could have included a few more "down to earth" scanner mods. Some very good ones that he has had in the World scanner Report over the past couple of years like: The "birdie by-pass timer, remote keyboard extension, manual RF gain control, and a couple of others that would have contributed a lot to the overall VALUE of the Ultimate Scanner as a MODIFICATION book.

While new and different models of scanner come and go, and this is especially true within a Consumer driven market. Which is why a modification book written in a more generic format would have had a much longer "shelf life", even in considering the extensive popularity and market life of the PRO-2004/5/6 models. If the Ultimate Scanner had been published a year or two ago, it would have been a GREAT book, but now I'm tempted to want to refer to it as The Ultimate Hype or just "too little, too late".

However, for those NOT already familiar with Bill Cheek's other modification works, and IF you already have a PRO-2004/5/6 scanner, on which the warranty has long ago expired, and you want to breath some extra life into the radio while getting your hands dirty doing it, and hopefully learning a bit more about what makes your scanner tick then take a look at the Ultimate Scanner from Index Publishing.

In closing, while I have derived much in the way of ideas and inspiration from Bill Cheek's previous writings over past years. And while he should be warmly credited with trying to get the last drop of performance out of the late PRO-2004/5/6 scanners along with helping to drag the scanner hobby into the computer age, The Ultimate Scanner, unfortunately misses the mark implied by it's title. I hope in his next book he will discover (somewhat)newer Hack Worthy scanners and focus his attention on more mods and a bit less on attitude. _

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FCC NEWS

The FCC has created a new General Wireless Communications Service (GWCS) in the band at 4660 to 4685 MHz, well out of the range of most of our scanners. The new service is in one of the bands transferred from the Federal Government to the private sector.

Congress passed legislation in 1993 requiring the Government to turn over at least 200 MHz of spectrum, with 50 MHz to be made available immediately. The band from 4660 to 4685 is one of the three bands that the National Telecommunications and Information Administration determined could be relinquished immediately. It is in the middle of the band from 4400 to 4990 MHz that is used extensively by the military for point-to-point links, high power tropospheric scatter communications systems and various mobile uses, including pilotless drones, video and data telemetry links, target systems, even links to tethered aerostat systems. They determined, however, that they could take a chunk out of the middle of this band with little impact, since many of the systems occupying this spectrum utilize paired frequencies at opposite ends of the band. Therefore, the 25 MHz at 4660 was relinquished immediately, with another 25 MHz at 4635 to 4660 slated for future reallocation, as soon as a number of airborne telemetry systems are reconfigured for other frequencies.

Earlier this year, the FCC adopted rules for the other two bands, at 2390 and 2402 MHz, and released the proposal concerning the rules for the 4660 MHz band. When the FCC released the proposal for the General Wireless Communications Service, they stated that the spectrum would be licensed by market area, with slices of spectrum assigned on an exclusive basis, by competitive bidding (auctions). It was almost as if the Commission designed this service as a revenue-gathering endeavor, an accusation that they deny.

The frequencies could be used for the licensees' own internal communications needs, or they could offer communications service on a for-profit, commercial basis. The service would have few limits, in order to encourage flexibility and innovation and could be used to provide dispatch service, point-to-point microwave, broadcast auxiliary or any other of a host of imaginative services, such as another "wireless cable" service or a proposed ground-to-air "aeronautical audio and visual service," transmitting real-time movies to aircraft in flight. A number of commenters on the proposal suggested that the new frequencies be assigned for point-to-point use, to replace the Fixed service frequencies at 1900 and 2200 that will be lost to the new Personal Communications Service, but this was a lost cause.

The FCC recently decided to implement the GWCS as proposed. They state that their approach "should permit a range of qualified uses, including those preferred by each of the commenters, while permitting new technologies and services to emerge and encouraging efficient use of this spectrum."

GWCS licensees will be able to provide any type of fixed or mobile service, except Broadcast, Radiolocation or Satellite. Licenses will be awarded by auction, since most projected uses of the spectrum are "likely to involve the transmission of communications to subscribers for compensation." The usual preferences will be given to women or minority-owned business, certain rural entities, small businesses, etc.

The band will be divided into five 5 MHz-wide channel block, each available for exclusive assignment. A licensee may, however, obtain up to three channel blocks, for a total of 15 MHz in a market. Technical rules for the new service are few, only limits on the signal strength at the edges of a licensees service area, to protect against interference to other systems in adjacent areas on the same frequencies, and rules regarding limits on human exposure to RF radiation. License areas will be based on "Economic Areas," as developed by the Bureau of Economic Analysis of the Department of Commerce. There are deadlines by which portions of a GWCS system must be placed in operation or else the license will be forfeited. This is to ensure that the frequencies are not hoarded, although this is unlikely when licenses are granted by auction. (No one is going to pay big bucks for a license and then let the spectrum sit idle.) The license term is ten years.

General Wireless Communications Service

Block A - 4660-4665 MHz
Block B - 4665-4670 MHz
Block C - 4670-4675 MHz
Block D - 4675-4680 MHz
Block E - 4680-4685 MHz

The Commission has released a report in the two-year-old proceeding dealing with the efficient use of the existing private land mobile radio spectrum below 800 MHz, the so-called "refarming" proposal. They have also asked for comments on how certain market-based incentives such as exclusive channel assignments with the right to lease excess capacity, spectrum-user fees and competitive bidding may be introduced into the land mobile bands to promote more efficient use of the spectrum.

In order to achieve its objective of increasing the efficiency of the land mobile frequency bands, the Commission has adopted the following changes to its rules:

-They established a narrowband (NB) channel plan based on current channel centers. Generally, channels will be listed every 7.5 kHz in the 150 to 174 MHz VHF band and every 6.25 kHz in the 421 to 430, 450 to 470, and 470 to 512 MHz UHF bands. Users will have the flexibility of combining up to four narrowband channels, provided that spectrum-efficient technology is employed. This approach will enable users to employ the most spectrally efficient technology available, while causing the least amount of disruption to their own and other existing opera-

tions. This channeling plan establishes a channelization framework that is flexible and technology-neutral.

-Adopted a transition plan in which users will not be required to replace existing systems. Instead, the transition to narrowband equipment will be accomplished by type-accepting only spectrum-efficient equipment over the next ten years. (Transmitters must be type-accepted before they may be sold or used in the land mobile services.) The dates for the type acceptance rules adopted are:

*August 1, 1996 - New type-accepted equipment must be designed to operate on channels of 12.5 kHz or less, or on 25 kHz channels if the narrowband efficiency standard is met (multi-mode equipment that operates on 25 kHz channels will be allowed if it is also capable of operating on 12.5 kHz or narrower channels).

*January 1, 2005 - New type-accepted equipment must be designed to operate on channels of 6.25 kHz or less, or on channels up to 25 kHz if the narrowband efficiency standard is met (multi-mode equipment that operates on 25 kHz and 12.5 kHz channels will be allowed if it is also capable of operating on 6.25 kHz or narrower channels).

This transition plan will provide users with flexibility to choose the equipment and a transition schedule that best fulfills their technical and financial objectives. It also provides manufacturers with incentives to develop and market narrowband equivalent technology.

-Imposed limits on allowable effective radiated power (ERP)/antenna height combinations of new stations based on the size of each stations service area. This action will reduce the incidence of overpowered systems, reduce background noise, and provide technical flexibility. Further, these new standards will increase channel re-use, thereby increasing spectrum efficiency.

The FCC also provided the industry with three months to negotiate and submit a consensus consolidation proposal. Consolidation of the various radio services will provide for more efficient allocation of the increased capacity created by the introduction of more efficient technology. The Commission indicates that two to four broad categories, including one for Public Safety users, appears reasonable. If no acceptable consensus plan is submitted within the allotted time, the Commission will devise and adopt a service consolidation plan based on the record.

A Further Notice of Proposed Rule Making was also released, to explore additional proposed methods to promote more efficient and effective use of the land mobile bands. The Commission noted that introducing market-based incentives into these bands will help to encourage more efficient spectrum use while allowing users to make equipment choices which best address their needs by attaching an economic cost to inefficient use of the spectrum. Although the Commission does not presently have statutory authority to implement user fees or competitive bidding in these bands, the Commission seeks comment on the following three options:

-Introducing exclusive channel assignments on frequencies in the PLMR bands, and permitting the leasing of excess capacity on these exclusive channels. The Commission stated that offering users the option of exclusivity with the right to lease excess capacity if the licensee agrees to convert to narrowband technology by a specified date will promote the use of more efficient technologies such as trunking and TDMA. In addition, affording users the opportunity to obtain exclusivity will enable them to benefit directly from the increased capacity which results from their conversion to more efficient technologies, thus encouraging more rapid transition to narrowband technology.

-Implementing a system of user fees in all PLMR bands to encourage licensees to make the most efficient and effective use of the spectrum. Under this approach, users would pay a fee based on the estimated value of the spectrum. The spectrum fee would be calculated based on the area and population covered, and the amount of spectrum used. This type of a user-fee structure would attach an economic cost to inefficient spectrum use, thereby potentially motivating users to use the spectrum more efficiently. The Commission proposes to exempt public safety users from any user fees.

-Introducing competitive bidding into all PLMR bands as an alternative to user fees. Specifically, the Commission seeks comment on a proposal to create geographic overlay licenses and use competitive bidding as the assignment mechanism for these overlay licenses. As with the user fee proposal, the Commission proposes to exempt public safety users from any competitive bidding structure.

The FCC has proposed to eliminate the one-year construction "build-out" requirement for Interactive Video Data Service (IVDS) licensees at 218 MHz. The current rules require licensees to make service available to at least 10 percent of either the population or the service area within one year, 30 percent within three years, and 50 percent within five years.

A number of IVDS auction winners have requested elimination of the one-year construction deadline. The petitioners argue that the IVDS equipment market is in early development and has yet to provide sufficient quantities of suitable, competitively price equipment. They argue further that technological development will be unnecessarily curtailed if the industry is consigned to the limited scope and application of the current equipment options. The original construction benchmark was crafted in the context of awarding licenses by lottery and was intended to reduce speculation and spectrum warehousing. The Commission stated further that in light of its experience with auctions, it no longer believes the 10 percent requirement is necessary to achieve these objectives.

Additionally, the Commission believes that it is in the public interest to provide licensees with greater flexibility in making decisions concerning financing, equipment selection and other considerations related to construction. Because this proposal would not alter the three- and five-year benchmarks, licensees would still be required to act responsibly in delivering service to the public in a timely fashion.

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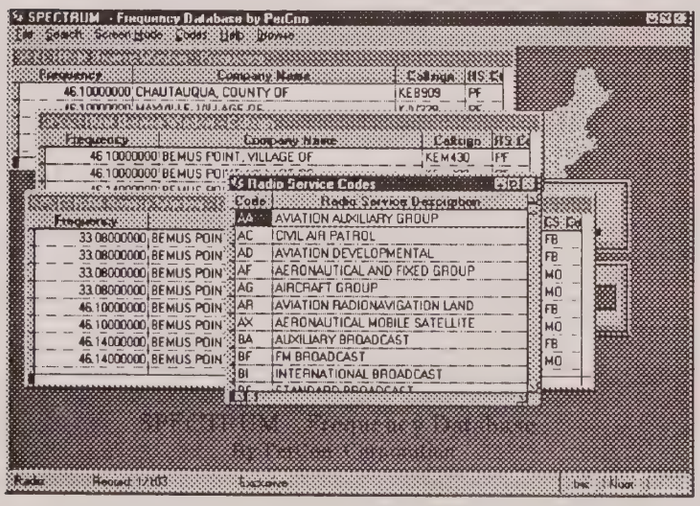

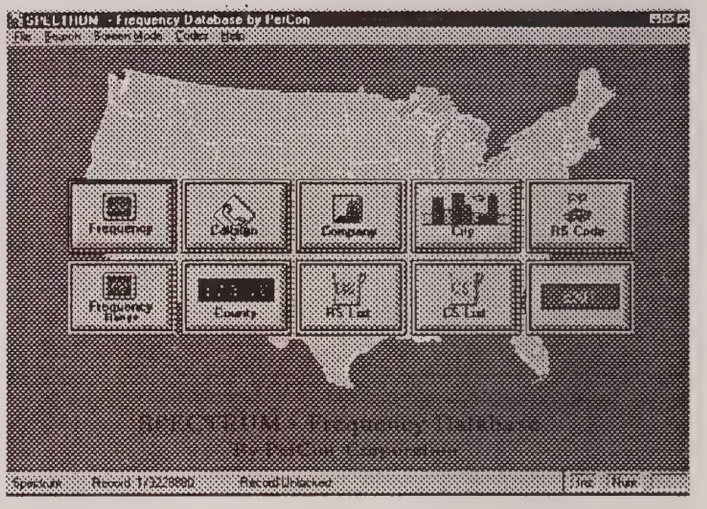

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- ❒ May–FBI–Blue Angels–P/R Regency TS 800 Model 2
- ❒ Jun–Military Airlift Command–Electronic Comm. Privacy Act–Alloca tions: 30.000 MHz to 30.980MHz, 150.010MHz to 150.995 MHz, 406.125MHz to 406.975 MHz
- ❒ Jul/Aug–Aircraft At Forest Fires–800 MHz Trunking–Allocations: 31.000 MHz to 31.980 MHz, 151.010 MHz to151.985 MHz, 407.000MHz to 407.975 MHz
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- ❒ Dec–P/R AR3000–P/R AR880–P/R Antenna Specialties MON 52 Antenna–Allocations: 158.010 MHz to 158.985MHz

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- ❒ Apr–A Look At The Spectrum–Aerial Demonstration Teams–BC-200XLT Again (Sep 88 Reprint)
- ❒ May–FAA –P/R Realistic PRO 2005–P/R AOR AR900–P/R GW 1 Pre-Amp–BC200/205XLT Cell Mods–Aerial Dem onstration Teams
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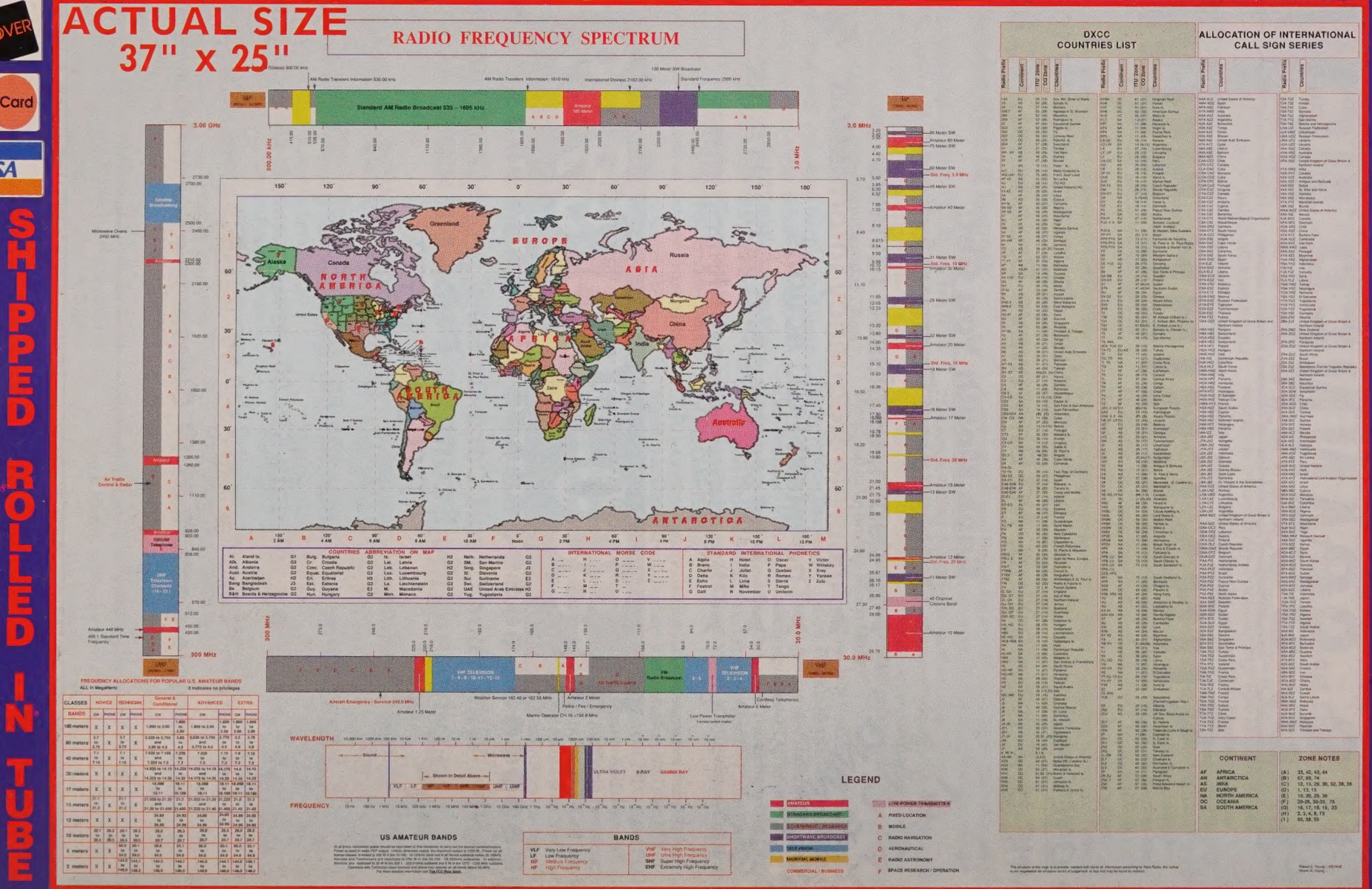
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